

Sequence Listing

<110> Ashkenazi, Avi  
Baker Kevin P.  
Botstein, David  
Desnoyers, Luc  
Eaton, Dan  
Ferrara, Napoleon  
Filvaroff, Ellen  
Fong, Sherman  
Gao, Wei-Qiang  
Gerber, Hanspeter  
Gerritsen, Mary E.  
Goddard, Audrey  
Godowski, Paul J.  
Grimaldi, J. Christopher  
Gurney, Austin L.  
Hillan, Kenneth J  
Kljavin, Ivar J.  
Kuo, Sophia S.  
Napier, Mary A.  
Pan, James;  
Paoni, Nicholas F.  
Roy, Margaret Ann  
Shelton, David L.  
Stewart, Timothy A.  
Tumas, Daniel  
Williams, P. Mickey  
Wood, William I.



<120> Secreted and Transmembrane Polypeptides and Nucleic  
Acids Encoding the Same

<130> P2630P1C4

<140> 09/978191

<141> 2001-10-15

<150> 09/918585

<151> 2001-07-30

<150> 60/062250

<151> 1997-10-17

<150> 60/064249

<151> 1997-11-03

<150> 60/065311

<151> 1997-11-13

<150> 60/066364

<151> 1997-11-21

<150> 60/077450

<151> 1998-03-10

<150> 60/077632

<151> 1998-03-11

<150> 60/077641

<151> 1998-03-11

<150> 60/077649

<151> 1998-03-11

<150> 60/077791

<151> 1998-03-12

<150> 60/078004

<151> 1998-03-13

<150> 60/078886

<151> 1998-03-20

<150> 60/078936

<151> 1998-03-20

<150> 60/078910

<151> 1998-03-20

<150> 60/078939

<151> 1998-03-20

<150> 60/079294

<151> 1998-03-25

<150> 60/079656

<151> 1998-03-26

<150> 60/079664

<151> 1998-03-27

<150> 60/079689

<151> 1998-03-27

<150> 60/079663

<151> 1998-03-27

<150> 60/079728

<151> 1998-03-27

<150> 60/079786

<151> 1998-03-27

<150> 60/079920

<151> 1998-03-30

<150> 60/079923

<151> 1998-03-30

<150> 60/080105

<151> 1998-03-31

<150> 60/080107

<151> 1998-03-31

<150> 60/080165

<151> 1998-03-31

<150> 60/080194

<151> 1998-03-31

<150> 60/080327

<151> 1998-04-01

<150> 60/080328

<151> 1998-04-01

<150> 60/080333

<151> 1998-04-01

<150> 60/080334

<151> 1998-04-01

<150> 60/081070

<151> 1998-04-08

<150> 60/081049  
<151> 1998-04-08

<150> 60/081071  
<151> 1998-04-08

<150> 60/081195  
<151> 1998-04-08

<150> 60/081203  
<151> 1998-04-09

<150> 60/081229  
<151> 1998-04-09

<150> 60/081955  
<151> 1998-04-15

<150> 60/081817  
<151> 1998-04-15

<150> 60/081819  
<151> 1998-04-15

<150> 60/081952  
<151> 1998-04-15

<150> 60/081838  
<151> 1998-04-15

<150> 60/082568  
<151> 1998-04-21

<150> 60/082569  
<151> 1998-04-21

<150> 60/082704  
<151> 1998-04-22

<150> 60/082804  
<151> 1998-04-22

<150> 60/082700

<151> 1998-04-22

<150> 60/082797  
<151> 1998-04-22

<150> 60/082796  
<151> 1998-04-23

<150> 60/083336  
<151> 1998-04-27

<150> 60/083322  
<151> 1998-04-28

<150> 60/083392  
<151> 1998-04-29

<150> 60/083495  
<151> 1998-04-29

<150> 60/083496  
<151> 1998-04-29

<150> 60/083499  
<151> 1998-04-29

<150> 60/083545  
<151> 1998-04-29

<150> 60/083554  
<151> 1998-04-29

<150> 60/083558  
<151> 1998-04-29

<150> 60/083559  
<151> 1998-04-29

<150> 60/083500  
<151> 1998-04-29

<150> 60/083742  
<151> 1998-04-30

<150> 60/084366

<151> 1998-05-05

<150> 60/084414  
<151> 1998-05-06

<150> 60/084441  
<151> 1998-05-06

<150> 60/084637  
<151> 1998-05-07

<150> 60/084639  
<151> 1998-05-07

<150> 60/084640  
<151> 1998-05-07

<150> 60/084598  
<151> 1998-05-07

<150> 60/084600  
<151> 1998-05-07

<150> 60/084627  
<151> 1998-05-07

<150> 60/084643  
<151> 1998-05-07

<150> 60/085339  
<151> 1998-05-13

<150> 60/085338  
<151> 1998-05-13

<150> 60/085323  
<151> 1998-05-13

<150> 60/085582  
<151> 1998-05-15

<150> 60/085700  
<151> 1998-05-15

<150> 60/085689

<151> 1998-05-15

<150> 60/085579  
<151> 1998-05-15

<150> 60/085580  
<151> 1998-05-15

<150> 60/085573  
<151> 1998-05-15

<150> 60/085704  
<151> 1998-05-15

<150> 60/085697  
<151> 1998-05-15

<150> 60/086023  
<151> 1998-05-18

<150> 60/086430  
<151> 1998-05-22

<150> 60/086392  
<151> 1998-05-22

<150> 60/086486  
<151> 1998-05-22

<150> 60/086414  
<151> 1998-05-22

<150> 60/087208  
<151> 1998-05-28

<150> 60/087106  
<151> 1998-05-28

<150> 60/087098  
<151> 1998-05-28

<150> 60/091010  
<151> 1998-06-26

<150> 60/090863

<151> 1998-06-26

<150> 60/091359  
<151> 1998-07-01

<150> 60/094651  
<151> 1998-07-30

<150> 60/100038  
<151> 1998-09-11

<150> 60/109304  
<151> 1998-11-20

<150> 60/113296  
<151> 1998-12-22

<150> 60/113621  
<151> 1998-12-23

<150> 60/123957  
<151> 1999-03-12

<150> 60/126773  
<151> 1999-03-29

<150> 60/130232  
<151> 1999-04-21

<150> 60/131022  
<151> 1999-04-26

<150> 60/131445  
<151> 1999-04-28

<150> 60/134287  
<151> 1999-05-14

<150> 60/139557  
<151> 1999-06-16

<150> 60/141037  
<151> 1999-06-23

<150> 60/142680



<151> 1999-07-07

<150> 60/145698  
<151> 1999-07-26

<150> 60/146222  
<151> 1999-07-28

<150> 60/162506  
<151> 1999-10-29

<150> 09/040220  
<151> 1998-03-17

<150> 09/105413  
<151> 1998-06-26

<150> 09/168978  
<151> 1998-10-07

<150> 09/184216  
<151> 1998-11-02

<150> 09/187368  
<151> 1998-11-06

<150> 09/202054  
<151> 1998-12-07

<150> 09/218517  
<151> 1998-12-22

<150> 09/254465  
<151> 1999-03-05

<150> 09/265686  
<151> 1999-03-10

<150> 09/267213  
<151> 1999-03-12

<150> 09/284291  
<151> 1999-04-12

<150> 09/311832

<151> 1999-05-14

<150> 09/380137  
<151> 1999-08-25

<150> 09/380138  
<151> 1999-08-25

<150> 09/380142  
<151> 1999-08-25

<150> 09/709238  
<151> 2000-11-08

<150> 09/723749  
<151> 2000-11-27

<150> 09/747259  
<151> 2000-12-20

<150> 09/816744  
<151> 2001-03-22

<150> 09/816920  
<151> 2001-03-22

<150> 09/854280  
<151> 2001-05-10

<150> 09/854208  
<151> 2001-05-10

<150> 09/872035  
<151> 2001-06-01

<150> 09/874503  
<151> 2001-06-05

<150> 09/882636  
<151> 2001-06-14

<150> 09/886342  
<151> 2001-06-19

<150> PCT/US98/21141

<151> 1998-10-07

<150> PCT/US98/24855

<151> 1998-11-20

<150> PCT/US99/00106

<151> 1999-01-05

<150> PCT/US99/05028

<151> 1999-03-08

<150> PCT/US99/05190

<151> 1999-03-10

<150> PCT/US99/10733

<151> 1999-05-14

<150> PCT/US99/12252

<151> 1999-06-02

<150> PCT/US99/28313

<151> 1999-11-30

<150> PCT/US99/28551

<151> 1999-12-02

<150> PCT/US99/28565

<151> 1999-12-02

<150> PCT/US99/30095

<151> 1999-12-16

<150> PCT/US99/31243

<151> 1999-12-30

<150> PCT/US99/31274

<151> 1999-12-30

<150> PCT/US00/00219

<151> 2000-05-01

<150> PCT/US00/00277

<151> 2000-01-06

<150> PCT/US00/00376

<151> 2000-01-06

<150> PCT/US00/03565

<151> 2000-02-11

<150> PCT/US00/04341

<151> 2000-02-18

<150> PCT/US00/05841

<151> 2000-03-02

<150> PCT/US00/07532

<151> 2000-03-21

<150> PCT/US00/05004

<151> 2000-02-24

<150> PCT/US00/06319

<151> 2000-03-10

<150> PCT/US00/08439

<151> 2000-03-30

<150> PCT/US00/13705

<151> 2000-05-17

<150> PCT/US00/14042

<151> 2000-05-22

<150> PCT/US00/14941

<151> 2000-05-30

<150> PCT/US00/15264

<151> 2000-06-02

<150> PCT/US00/20710

<151> 2000-07-28

<150> PCT/US00/23328

<151> 2000-08-24

<150> PCT/US00/32678

<151> 2000-12-01

<150> PCT/US00/34956

<151> 2000-12-20

<150> PCT/US01/06520

<151> 2001-02-28

<150> PCT/US01/09552

<151> 2001-03-22

<150> PCT/US01/17092

<151> 2001-05-25

<150> PCT/US01/17800

<151> 2001-06-01

<150> PCT/US01/19692

<151> 2001-06-20

<150> PCT/US01/21066

<151> 2001-06-29

<150> PCT/US01/21735

<151> 2001-07-09

<160> 623

<210> 1

<211> 1743

<212> DNA

<213> Homo sapiens

<400> 1

ccaggtccaa ctgcacctcg gttctatcga ttgaattccc cggggatcct 50

ctagagatcc ctgcacctcg acccacgcgt ccgccaagct ggccctgcac 100

ggctgcaagg gaggctcctg tggacaggcc aggcaggtgg gcctcaggag 150

gtgctccag gcggccagtg ggctgaggc cccagcaagg gctagggtcc 200

atctccagtc ccaggacaca gcagcggcca ccatggccac gcctgggctc 250

cagcagcatc agcagcccc aggaccgggg gaggcacagg tggccccac 300

caccggagg agcagctcct gccctgtcc gggggatgac tgattctct 350

ccgccaggcc acccagagga gaaggccacc ccgctggag gcacaggcca 400  
tgaggggctc tcaggaggtg ctgctgatgt ggcttctggt gttggcagtg 450  
ggcggcacag agcacgccta ccggcccggc cgttaggggtg tgtgctgtcc 500  
cgggctcacg gggaccctgt ctccgagtcg ttcgtgcagc gtgtgtacca 550  
gcccttctc accacctgcg acgggcaccg ggctgcagc acctaccgaa 600  
ccatttatag gaccgcctac cgccgcagcc ctgggctggc ccctgccagg 650  
cctcgctacg cgtgctgccc cggctggaag aggaccagcg ggcttctgg 700  
ggcctgtgga gcagcaatat gccagccgcc atgccggaac ggagggagct 750  
gtgtccagcc tggccgctgc cgctgcctg caggatggcg gggtagact 800  
tgccagttag atgtgatga atgcagtgt aggaggggcg gctgtccca 850  
gcgctgcatc aacaccgccg gcagttactg gtgccagtgt tgggaggggc 900  
acagcctgtc tgcagacggt aactctgtg tgccaaggg agggccccc 950  
agggtggccc ccaaccgac aggagtggac agtgcaatga aggaagaagt 1000  
gcagaggctg cagtccaggg tggacctgct ggaggagaag ctgcagtgg 1050  
tgtggcccc actgcacagc ctggcctgc aggcactgga gcatgggctc 1100  
ccggaccccg gcagcctct ggtgcactcc ttccagcagc tcggccgcat 1150  
cgactccctg agcgagcaga tttcttctt ggaggagcag ctggggtcct 1200  
gctcctgcaa gaaagactcg tgactgcca gcgcccagg ctggactgag 1250  
cccctcagc cgcctgcag ccccatgcc cctgccaac atgctggggg 1300  
tccagaagcc acctcgggtg gactgagcgg aaggccaggc agggccttc 1350  
tcttttct cctcccctc cctcgggagg gtccccagac cctggcatgg 1400  
gatgggctgg gattttttt gtgaatccac cctggctac cccaccctg 1450  
gttaccctaa cggcatccca aggccaggtg ggcctcagc tgaggaagg 1500

tacgagttcc cctgctggag cctgggaccc atggcacagg ccaggcagcc 1550  
cggaggctgg gtggggcctc agtgggggct gctgcctgac ccccagcaca 1600  
ataaaaatga aacgtgaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1650  
aaaaaaaaagg gcggccgca ctctagagtc gacctgcaga agcttgccg 1700  
ccatggccca acttgttat tgcagcttat aatggttaca aat 1743

<210> 2  
<211> 295  
<212> PRT  
<213> Homo sapiens

<400> 2  
Met Thr Asp Ser Pro Pro Gly His Pro Glu Glu Lys Ala Thr  
1 5 10 15  
Pro Pro Gly Gly Thr Gly His Glu Gly Leu Ser Gly Gly Ala Ala  
20 25 30  
Asp Val Ala Ser Gly Val Gly Ser Gly Arg His Arg Ala Arg Leu  
35 40 45  
Pro Ala Arg Pro Leu Gly Cys Val Leu Ser Arg Ala His Gly Asp  
50 55 60  
Pro Val Ser Glu Ser Phe Val Gln Arg Val Tyr Gln Pro Phe Leu  
65 70 75  
Thr Thr Cys Asp Gly His Arg Ala Cys Ser Thr Tyr Arg Thr Ile  
80 85 90  
Tyr Arg Thr Ala Tyr Arg Arg Ser Pro Gly Leu Ala Pro Ala Arg  
95 100 105  
Pro Arg Tyr Ala Cys Cys Pro Gly Trp Lys Arg Thr Ser Gly Leu  
110 115 120  
Pro Gly Ala Cys Gly Ala Ala Ile Cys Gln Pro Pro Cys Arg Asn  
125 130 135  
Gly Gly Ser Cys Val Gln Pro Gly Arg Cys Arg Cys Pro Ala Gly  
140 145 150

Trp Arg Gly Asp Thr Cys Gln Ser Asp Val Asp Glu Cys Ser Ala  
155 160 165

Arg Arg Gly Gly Cys Pro Gln Arg Cys Ile Asn Thr Ala Gly Ser  
170 175 180

Tyr Trp Cys Gln Cys Trp Glu Gly His Ser Leu Ser Ala Asp Gly  
185 190 195

Thr Leu Cys Val Pro Lys Gly Gly Pro Pro Arg Val Ala Pro Asn  
200 205 210

Pro Thr Gly Val Asp Ser Ala Met Lys Glu Glu Val Gln Arg Leu  
215 220 225

Gln Ser Arg Val Asp Leu Leu Glu Glu Lys Leu Gln Leu Val Leu  
230 235 240

Ala Pro Leu His Ser Leu Ala Ser Gln Ala Leu Glu His Gly Leu  
245 250 255

Pro Asp Pro Gly Ser Leu Leu Val His Ser Phe Gln Gln Leu Gly  
260 265 270

Arg Ile Asp Ser Leu Ser Glu Gln Ile Ser Phe Leu Glu Glu Gln  
275 280 285

Leu Gly Ser Cys Ser Cys Lys Lys Asp Ser  
290 295

<210> 3

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 3

tggagcagca atatgccagc c 21

<210> 4

<211> 22

<212> DNA

<213> Artificial Sequence



<220>

<223> Synthetic oligonucleotide probe

<400> 4

tttccactc ctgtcgggtt gg 22

<210> 5

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 5

ggtgacactt gccagtcaga tgtggatgaa tgcagtgcta ggaggg 46

<210> 6

<211> 2945

<212> DNA

<213> Homo sapiens

<400> 6

cgctcgcccc gtcgcccctc gctccccgc agagtccctt cgcggcagca 50

gatgtgtgtg gggctagccc acggcgggga ctatggtgaa attcccggcg 100

ctcacgact actggcccct gatccggttc ttggtgcccc tgggcatcac 150

caacatagcc atcgacttcg gggagcaggc ctggaaccgg ggcattgctg 200

ctgtcaagga ggatgcagtc gagatgctgg ccagctacgg gctggcgtac 250

tccctcatga agttcttcac ggttccatg agtgacttca aaaatgtggg 300

cctgggtgtt gtgaacagca agagagacag gaccaaagcc gtcctgtgta 350

tgggtgtggc aggggccatc gctgccgtct tcacacact gatagcttat 400

agtgatttag gatactacat tatcaataaa ctgcacatg tggacgagtc 450

ggtgggggagc aagacagaaa gggccttctt gtacctgcc gccttctt 500

tcatggacgc aatggcatgg acctatgctg gcattcttt aaaacacaaa 550

tacagttcc tgggggatg tgcctcaatc tcagatgtca tagctcaggt 600  
tgTTTTGTA gccatttgc ttcacagtca cctggaatgc cgggagcccc 650  
tgctcatccc gatcctctcc ttgtacatgg gcgcacttgt gcgctgcacc 700  
accctgtgcc tgggctacta caagaacatt cacgacatca tcctgacag 750  
aagtggcccc gagctggggg gagatgcaac aataagaaag atgctgagct 800  
tctggtggcc tttggctcta attctggcca cacagagaat cagtcggcct 850  
attgtcaacc tctttgttc ccgggacctt ggtggcagtt ctgagccac 900  
agaggcagtg gcgatttga cagccacata ccctgtgggt cacatgcat 950  
acggctggtt gacggaaatc cgtgctgtgt atcctgctt cgacaagaat 1000  
aaccagca acaaactggt gagcacgagc aacacagtca cggcagccca 1050  
catcaagaag ttcacctcg tctgcatggc tctgtcactc acgctctgtt 1100  
tcgtgatgtt ttggacacc aacgtgtctg agaaaatctt gatagacatc 1150  
atcggagtgg actttgcctt tgcagaactc tgtgttgttc ctttgcggat 1200  
cttctcctc tcccagttc cagtcacagt gagggcgcac ctcaccgggt 1250  
ggctgatgac actgaagaaa accttctcc ttgccccag ctctgtgctg 1300  
cggatcatcg tcctcatgc cagcctctg gtctaccct acctgggggt 1350  
gcacggtgcg accctgggcg tgggctccct cctggcgggc tttgtgggag 1400  
aatccacat ggtcgcacat gctgcgtgct atgtctaccg gaagcagaaa 1450  
aagaagatgg agaatgagtc ggccacggag ggggaagact ctgcatgac 1500  
agacatgctt ccgacagagg aggtgacaga catcgtggaa atgagagagg 1550  
agaatgaata aggcacggga cgccatgggc actgcaggga cggtcagtca 1600  
ggatgacact tggcatcat ctctcctc tccatcgta tttgttccc 1650  
ttttttgt ttttttgg taatgaaaga ggcctgatt taaagtttc 1700

gtgtcaattc tctagcatac tgggtatgct cacactgacg gggggaccta 1750  
gtgaatggtc ttactgttg ctatgtaaaa acaaacgaaa caactgactt 1800  
catacccctg cctcacgaaa acccaaaaaga cacagctgcc tcacggttga 1850  
cgttgtgtcc tcctcccctg gacaatctcc tcttgaacc aaaggactgc 1900  
agctgtgcca tcgcgcctcg gtcaccctgc acagcaggcc acagactctc 1950  
ctgtcccctt tcatcgctct taagaatcaa caggttaaaa ctcggcttcc 2000  
ttgatttgc ttccagtc aatggccgta caaagagatg gagccccggt 2050  
ggcctcttaa atttcccttc tgccacggag ttcgaaacca tctactccac 2100  
acatgcagga ggcgggtggc acgctgcagc ccggagtccc cgttcacact 2150  
gaggaacgga gacctgtgac cacagcaggc tgacagatgg acagaatctc 2200  
ccgtagaaag gtttggtttg aaatgccccg ggggcagcaa actgacatgg 2250  
ttgaatgata gcatttact ctgcgttctc ctatagctga gcaagctgtc 2300  
agttctcacc cccaccgtgt atatacatga gtaactttt ttaaattgtc 2350  
acaaaagcgc atctccagat tccagaccct gccgcatgac ttttctgaa 2400  
ggcttgcctt tcctcgcct ttctgaagg tcgcattaga gcgagtcaca 2450  
tggagcatcc taactttgca ttttagttt tacagtgaac tgaagcttta 2500  
agtctcatcc agcattctaa tgccaggttg ctgtagggta acttttgaag 2550  
tagatatatt acctggttct gctatcctta gtcataactc tgcggtacag 2600  
gtaattgaga atgtactacg gtacttcct cccacacat acgataaagc 2650  
aagacatttt ataacgatac cagagtcact atgtgtcct ccctgaaata 2700  
acgcattcga aatccatgca gtgcagtata ttttctaag ttttgaaag 2750  
caggttttt ccttataaaa aattatagac acggttctact aaattgatt 2800  
agtcagaatt cctagactga aagaacctaa acaaaaaaat attttaaga 2850

tataaatata tgcgtatat gttatgtaat ttatttagg ctataatata 2900

tttctattt tcgcatttc aataaaatgt ctctaataca aaaaa 2945

<210> 7

<211> 492

<212> PRT

<213> Homo sapiens

<400> 7

Met Val Lys Phe Pro Ala Leu Thr His Tyr Trp Pro Leu Ile Arg

1 5 10 15

Phe Leu Val Pro Leu Gly Ile Thr Asn Ile Ala Ile Asp Phe Gly

20 25 30

Glu Gln Ala Leu Asn Arg Gly Ile Ala Ala Val Lys Glu Asp Ala

35 40 45

Val Glu Met Leu Ala Ser Tyr Gly Leu Ala Tyr Ser Leu Met Lys

50 55 60

Phe Phe Thr Gly Pro Met Ser Asp Phe Lys Asn Val Gly Leu Val

65 70 75

Phe Val Asn Ser Lys Arg Asp Arg Thr Lys Ala Val Leu Cys Met

80 85 90

Val Val Ala Gly Ala Ile Ala Ala Val Phe His Thr Leu Ile Ala

95 100 105

Tyr Ser Asp Leu Gly Tyr Tyr Ile Ile Asn Lys Leu His His Val

110 115 120

Asp Glu Ser Val Gly Ser Lys Thr Arg Arg Ala Phe Leu Tyr Leu

125 130 135

Ala Ala Phe Pro Phe Met Asp Ala Met Ala Trp Thr His Ala Gly

140 145 150

Ile Leu Leu Lys His Lys Tyr Ser Phe Leu Val Gly Cys Ala Ser

155 160 165

Ile Ser Asp Val Ile Ala Gln Val Val Phe Val Ala Ile Leu Leu

170 175 180

His Ser His Leu Glu Cys Arg Glu Pro Leu Leu Ile Pro Ile Leu  
185 190 195

Ser Leu Tyr Met Gly Ala Leu Val Arg Cys Thr Thr Leu Cys Leu  
200 205 210

Gly Tyr Tyr Lys Asn Ile His Asp Ile Ile Pro Asp Arg Ser Gly  
215 220 225

Pro Glu Leu Gly Gly Asp Ala Thr Ile Arg Lys Met Leu Ser Phe  
230 235 240

Trp Trp Pro Leu Ala Leu Ile Leu Ala Thr Gln Arg Ile Ser Arg  
245 250 255

Pro Ile Val Asn Leu Phe Val Ser Arg Asp Leu Gly Gly Ser Ser  
260 265 270

Ala Ala Thr Glu Ala Val Ala Ile Leu Thr Ala Thr Tyr Pro Val  
275 280 285

Gly His Met Pro Tyr Gly Trp Leu Thr Glu Ile Arg Ala Val Tyr  
290 295 300

Pro Ala Phe Asp Lys Asn Asn Pro Ser Asn Lys Leu Val Ser Thr  
305 310 315

Ser Asn Thr Val Thr Ala Ala His Ile Lys Lys Phe Thr Phe Val  
320 325 330

Cys Met Ala Leu Ser Leu Thr Leu Cys Phe Val Met Phe Trp Thr  
335 340 345

Pro Asn Val Ser Glu Lys Ile Leu Ile Asp Ile Ile Gly Val Asp  
350 355 360

Phe Ala Phe Ala Glu Leu Cys Val Val Pro Leu Arg Ile Phe Ser  
365 370 375

Phe Phe Pro Val Pro Val Thr Val Arg Ala His Leu Thr Gly Trp  
380 385 390

Leu Met Thr Leu Lys Lys Thr Phe Val Leu Ala Pro Ser Ser Val  
395 400 405

Leu Arg Ile Ile Val Leu Ile Ala Ser Leu Val Val Leu Pro Tyr  
410 415 420

Leu Gly Val His Gly Ala Thr Leu Gly Val Gly Ser Leu Leu Ala  
425 430 435

Gly Phe Val Gly Glu Ser Thr Met Val Ala Ile Ala Ala Cys Tyr  
440 445 450

Val Tyr Arg Lys Gln Lys Lys Lys Met Glu Asn Glu Ser Ala Thr  
455 460 465

Glu Gly Glu Asp Ser Ala Met Thr Asp Met Pro Pro Thr Glu Glu  
470 475 480

Val Thr Asp Ile Val Glu Met Arg Glu Glu Asn Glu  
485 490

<210> 8

<211> 535

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 33, 66, 96, 387

<223> unknown base

<400> 8

cctgacagaa gtgccccgga gctgggggag atncaacatt aagaagatgc 50

tgagcttctg gtgcnnttg gctctaattc tggccacaca gagaancagt 100

cggcctattg tcaacctctt tgttcccgg gaccttggtg gcagttctgc 150

agccacagag gcagtggcga tttgacagc cacatacct gtgggtcaca 200

tgccatacgg ctggttgacg gaaatccgtg ctgtgtatcc tgctttcgac 250

aagaataacc ccagcaaca actggtgagc acgagcaaca cagtcacggc 300

ggccacatc aagaagtica ccttcgtctg catggctctg tactcagc 350

tctgttctg gatgttttg acaccaacg tgtctngaa aatcttgata 400

gacatcatcg gagggtgactt tgcctttgca gaactctgtg ttgttccttt 450

gcggatcttc tccttctcc cagttccagt cacagtgagg gcgcatctca 500

ccgggtggct gatgacactg aagaaaacct tcgtc 535

<210> 9

<211> 434

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 32, 54, 80, 111, 117, 122, 139, 193, 205, 221, 226, 228, 273,  
293, 296, 305, 336, 358, 361

<223> unknown base

<400> 9

tgacggaatc ccgggctggg tctcctggtt tngacaagat aaacccccag 50

caanaaattg gggagcaggg caaaacagtn acgggcagcc cacatcaaga 100

agttcacctt ngtttgnatg gntctgtcaa ctcacgctnt gtttcgtgat 150

gttttggaca cccaaagtgt ttgagaaaat tttgatagac atnatcggag 200

tggantttgc ctttgcaaaa ntttngntg ttctttgcg gattttctcc 250

ttttccag ttccagtcac agngagggcg catctcaccg ggnggntgat 300

gacantgaag aaaacctttg tccttgcccc cagctntttg gtgcggatca 350

ttgtcctnat ngccagcctt gtggtcctac cctacctggg ggtgcacggt 400

gcgaccctgg gcgtgggttc cctcctggcg ggca 434

<210> 10

<211> 154

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 33, 49, 68, 83, 90, 98, 119

<223> unknown base

<400> 10  
tattcccagt tccggtcacg gggagggcgc atntcaccgg gtggctgang 50  
  
aactgaaga aaacctngt ccttgcccc agntttgtgn tgcggatnat 100  
  
cgtctcatc gccagcctng tggctctacc ctacctgggg gtgcacggtg 150  
  
agac 154

<210> 11  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 11  
ctgatccgt tcttgggtgcc cctg 24

<210> 12  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 12  
gctctgtcac tcacgctc 18

<210> 13  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 13  
tcattcttc cctctccc 18

<210> 14  
<211> 18  
<212> DNA



<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 14

ccttccgcca cggagttc 18

<210> 15

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 15

ggcaaagtcc actccgatga tgtc 24

<210> 16

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 16

gcctgctgtg gtcacaggtc tccg 24

<210> 17

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 17

tcggggagca ggccttgaac cggggcattg ctgctgtcaa ggagg 45

<210> 18

<211> 1901

<212> DNA

<213> Homo sapiens

<400> 18

gccccgcgcc cggcgccggg cggccgaagc cgggagccac cgccatgggg 50

gcctgcctgg gagcctgtc cctgtcagc tgcgcgtcct gcctctgagg 100

ctctgcccc tgcacctgt gcagctgtg ccccgccagc cgcaactcca 150

ccgtgagccg cctcatctc acgttttcc tcttctggg ggtgctggtg 200

tccatcatta tgctgagccc gggcgtggag agtcagctct acaagctgcc 250

ctgggtgtg gaggaggggg ccgggatccc caccgtctg cagggccaca 300

tcgactgtgg ctccctgctt ggctaccgag ctgtctaccg catgtgctc 350

gccacggcgg ccttttctt ctctttttc accctgctca tgctctgcgt 400

gagcagcagc cgggaccccc gggctgcat ccagaatggg ttttggttct 450

ttaagttct gatcctggtg ggcctaccg tgggtgcctt ctacatcct 500

gacggctctt tcaccaacat ctggttctac ttcggcgtcg tgggctcctt 550

cctttcacc ctcatccagc tgggtgctgt catcgacttt gcgcactcct 600

ggaaccagcg gtggctgggc aaggccgagg agtgcgattc ccgtgcctgg 650

tacgcaggcc tcttctctt cactctctc ttctacttgc tgcgatcgc 700

ggccgtggcg ctgatgtca tgtactacac tgagcccagc ggctgccacg 750

agggcaaggt ctcatcagc ctcaacctca ctttctgtgt ctgcgtgtcc 800

atcgtgctg tctgccccaa ggtccaggac gccagccca actcgggtct 850

gctgcaggcc tcggtcatca ccctctacac catgtttgtc acctggtcag 900

ccctatccag tatccctgaa cagaaatgca accccattt gccaacccag 950

ctgggcaacg agacagttgt ggcaggcccc gagggctatg agaccagtg 1000

gtgggatgcc ccgagcattg tgggcctcat catcttctc ctgtgcacc 1050

tcttcatcag tctgcgtcc tcagaccacc ggcaggtgaa cagcctgatg 1100

cagaccgagg agtgccacc tatgctagac gccacacagc agcagcagca 1150  
gcagggtggca gcctgtgagg gccgggcctt tgacaacgag caggacggcg 1200  
tcacctacag ctactccttc ttccattct gcttggtgct ggctcactg 1250  
cacgtcatga tgacgtcac caactggtac aagcccgggtg agaccggaa 1300  
gatgatcagc acgtggaccg ccgtgtgggt gaagatctgt gccagctggg 1350  
cagggtgct cctctacctg tggaccctgg tagccccact cctcctgcgc 1400  
aaccgcgact tcagctgagg cagcctcaca gctgcccac tggcctcc 1450  
tgccacctgg tgctctcgg ctcggtgaca gccaacctgc cccctccca 1500  
caccaatcag ccaggctgag cccccaccc tgcaccagct ccaggacctg 1550  
ccctgagcc gggccttcta gtcgtagtgc cttcagggtc cgaggagcat 1600  
caggctcctg cagagcccca tcccccgcc acaccacac ggtggagctg 1650  
cctcttctt cccctctcc ctgttgcca tactcagcat ctcggatgaa 1700  
agggtccct tgcctcagg ctccacggga gcggggctgc tggagagagc 1750  
ggggaactcc caccacagt gggcatccgg cactgaagcc ctggtgtcc 1800  
tggtcacgtc cccagggga ccctgcccc ttctggact tctgcctta 1850  
ctgagtctt aagactttt ctaataaaca agccagtgcg tgtaaaaaa 1900

a 1901

<210> 19

<211> 457

<212> PRT

<213> Homo sapiens

<400> 19

Met Gly Ala Cys Leu Gly Ala Cys Ser Leu Leu Ser Cys Ala Ser  
1 5 10 15

Cys Leu Cys Gly Ser Ala Pro Cys Ile Leu Cys Ser Cys Cys Pro  
20 25 30

Ala Ser Arg Asn Ser Thr Val Ser Arg Leu Ile Phe Thr Phe Phe  
35 40 45

Leu Phe Leu Gly Val Leu Val Ser Ile Ile Met Leu Ser Pro Gly  
50 55 60

Val Glu Ser Gln Leu Tyr Lys Leu Pro Trp Val Cys Glu Glu Gly  
65 70 75

Ala Gly Ile Pro Thr Val Leu Gln Gly His Ile Asp Cys Gly Ser  
80 85 90

Leu Leu Gly Tyr Arg Ala Val Tyr Arg Met Cys Phe Ala Thr Ala  
95 100 105

Ala Phe Phe Phe Phe Phe Thr Leu Leu Met Leu Cys Val Ser  
110 115 120

Ser Ser Arg Asp Pro Arg Ala Ala Ile Gln Asn Gly Phe Trp Phe  
125 130 135

Phe Lys Phe Leu Ile Leu Val Gly Leu Thr Val Gly Ala Phe Tyr  
140 145 150

Ile Pro Asp Gly Ser Phe Thr Asn Ile Trp Phe Tyr Phe Gly Val  
155 160 165

Val Gly Ser Phe Leu Phe Ile Leu Ile Gln Leu Val Leu Leu Ile  
170 175 180

Asp Phe Ala His Ser Trp Asn Gln Arg Trp Leu Gly Lys Ala Glu  
185 190 195

Glu Cys Asp Ser Arg Ala Trp Tyr Ala Gly Leu Phe Phe Phe Thr  
200 205 210

Leu Leu Phe Tyr Leu Leu Ser Ile Ala Ala Val Ala Leu Met Phe  
215 220 225

Met Tyr Tyr Thr Glu Pro Ser Gly Cys His Glu Gly Lys Val Phe  
230 235 240

Ile Ser Leu Asn Leu Thr Phe Cys Val Cys Val Ser Ile Ala Ala  
245 250 255

Val Leu Pro Lys Val Gln Asp Ala Gln Pro Asn Ser Gly Leu Leu  
260 265 270

Gln Ala Ser Val Ile Thr Leu Tyr Thr Met Phe Val Thr Trp Ser  
275 280 285

Ala Leu Ser Ser Ile Pro Glu Gln Lys Cys Asn Pro His Leu Pro  
290 295 300

Thr Gln Leu Gly Asn Glu Thr Val Val Ala Gly Pro Glu Gly Tyr  
305 310 315

Glu Thr Gln Trp Trp Asp Ala Pro Ser Ile Val Gly Leu Ile Ile  
320 325 330

Phe Leu Leu Cys Thr Leu Phe Ile Ser Leu Arg Ser Ser Asp His  
335 340 345

Arg Gln Val Asn Ser Leu Met Gln Thr Glu Glu Cys Pro Pro Met  
350 355 360

Leu Asp Ala Thr Gln Gln Gln Gln Gln Val Ala Ala Cys Glu  
365 370 375

Gly Arg Ala Phe Asp Asn Glu Gln Asp Gly Val Thr Tyr Ser Tyr  
380 385 390

Ser Phe Phe His Phe Cys Leu Val Leu Ala Ser Leu His Val Met  
395 400 405

Met Thr Leu Thr Asn Trp Tyr Lys Pro Gly Glu Thr Arg Lys Met  
410 415 420

Ile Ser Thr Trp Thr Ala Val Trp Val Lys Ile Cys Ala Ser Trp  
425 430 435

Ala Gly Leu Leu Leu Tyr Leu Trp Thr Leu Val Ala Pro Leu Leu  
440 445 450

Leu Arg Asn Arg Asp Phe Ser  
455

<210> 20

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 20

gccgcctcat cttcaggtc ttcc 24

<210> 21

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 21

tcatccagct ggtgctgctc 20

<210> 22

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 22

cttctccac ttctgctgg 20

<210> 23

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 23

cctgggcaaa aatgcaac 18

<210> 24

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 24

caggaatgta gaaggcaccc acgg 24

<210> 25

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 25

tggcacagat cttcacccac acgg 24

<210> 26

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 26

tgccatcat tatgctgagc ccgggcgtgg agagtcagct ctacaagctg 50

<210> 27

<211> 1351

<212> DNA

<213> Homo sapiens

<400> 27

gagcgaggcc ggggactgaa ggtgtgggtg tcgagccctc tggcagaggg 50

ttaacctggg tcaaatgcac ggattctcac ctctacagt tacgctctcc 100

cgcgacagt ccgagggac ttgaagtctt gagcgctcaa gttgtccgt 150

aggtcgagag aaggccatgg aggtgccgcc accggcaccg cggagctttc 200

tctgtagagc attgtgcta tttccccgag tctttgctgc cgaagctgtg 250

actgccgatt cggagctct tggagcgt cagaagcggc ttcctacgt 300

cccagagccc tattaccgg aatctggatg ggaccgcctc cgggagctgt 350  
ttggcaaaga tgaacagcag agaattcaa aggaccttgc taatatctgt 400  
aagacggcag ctacagcagg catcattggc tgggtgtatg ggggaatacc 450  
agcttttatt catgctaaac aacaatacat tgagcagagc caggcagaaa 500  
ttatcataa ccggttgat gctgtgcaat ctgcacatcg tgctgccaca 550  
cgaggcttca ttcgttatgg ctggcctgg ggttgagaa ctgcagtgtt 600  
tgtactata ttcaacacag tgaacactag tctgaatgta taccgaaata 650  
aagatgcctt aagccattt gtaattgcag gagctgtcac gggaagtctt 700  
ttaggataa acgtaggcct gcgtggcctg gtggctggtg gcataattgg 750  
agccttgctg ggcactcctg taggagcct gctgatggca ttcagaagt 800  
acgctggtga gactgtcag gaaagaaaac agaaggatcg aaaggcactc 850  
catgagctaa aactggaaga gtggaaaggc agactacaag ttactgagca 900  
cctccctgag aaaattgaaa gtagtttacg ggaagatgaa cctgagaatg 950  
atgctaagaa aattgaagca ctgctaaacc ttctagaaa cccttcagta 1000  
atagataaac aagacaagga ctgaaagtgc tctgaactg aaactcactg 1050  
gagagctgaa gggagctgcc atgtccgatg aatgccaaca gacaggccac 1100  
tctttgtca gcctgctgac aaatttaagt gctggtacct gtggtggcag 1150  
tggttgctc ttgtctttt ctttctttt taactaagaa tggggctgtt 1200  
gtactctcac tttactatc cttaaattta aatacactat tatgtttgta 1250  
ttaatctatc aatatatgca tacatggata tatccacca cctagatttt 1300  
aagcagtaaa taaaacattt cgcaaaagat taaagttgaa tttacagtt 1350  
t 1351



<211> 285

<212> PRT

<213> Homo sapiens

<400> 28

Met Glu Val Pro Pro Pro Ala Pro Arg Ser Phe Leu Cys Arg Ala  
1 5 10 15

Leu Cys Leu Phe Pro Arg Val Phe Ala Ala Glu Ala Val Thr Ala  
20 25 30

Asp Ser Glu Val Leu Glu Glu Arg Gln Lys Arg Leu Pro Tyr Val  
35 40 45

Pro Glu Pro Tyr Tyr Pro Glu Ser Gly Trp Asp Arg Leu Arg Glu  
50 55 60

Leu Phe Gly Lys Asp Glu Gln Gln Arg Ile Ser Lys Asp Leu Ala  
65 70 75

Asn Ile Cys Lys Thr Ala Ala Thr Ala Gly Ile Ile Gly Trp Val  
80 85 90

Tyr Gly Gly Ile Pro Ala Phe Ile His Ala Lys Gln Gln Tyr Ile  
95 100 105

Glu Gln Ser Gln Ala Glu Ile Tyr His Asn Arg Phe Asp Ala Val  
110 115 120

Gln Ser Ala His Arg Ala Ala Thr Arg Gly Phe Ile Arg Tyr Gly  
125 130 135

Trp Arg Trp Gly Trp Arg Thr Ala Val Phe Val Thr Ile Phe Asn  
140 145 150

Thr Val Asn Thr Ser Leu Asn Val Tyr Arg Asn Lys Asp Ala Leu  
155 160 165

Ser His Phe Val Ile Ala Gly Ala Val Thr Gly Ser Leu Phe Arg  
170 175 180

Ile Asn Val Gly Leu Arg Gly Leu Val Ala Gly Gly Ile Ile Gly  
185 190 195

Ala Leu Leu Gly Thr Pro Val Gly Gly Leu Leu Met Ala Phe Gln

200            205            210

Lys Tyr Ala Gly Glu Thr Val Gln Glu Arg Lys Gln Lys Asp Arg  
215            220            225

Lys Ala Leu His Glu Leu Lys Leu Glu Glu Trp Lys Gly Arg Leu  
230            235            240

Gln Val Thr Glu His Leu Pro Glu Lys Ile Glu Ser Ser Leu Arg  
245            250            255

Glu Asp Glu Pro Glu Asn Asp Ala Lys Lys Ile Glu Ala Leu Leu  
260            265            270

Asn Leu Pro Arg Asn Pro Ser Val Ile Asp Lys Gln Asp Lys Asp  
275            280            285

<210> 29

<211> 324

<212> DNA

<213> Homo sapiens

<400> 29

cggaagtccc ttgaggagcg tcagaagcgg cttccctacg tcccagagcc 50

ctattaccgg gaatctggat gggaccgctc cgggagctgt ttggcaaaga 100

tgaacagcag agaattcaa aggaccttgc taatatctgt aagacggcag 150

ctacagcagg catcattggc tgggtgatg ggggaatacc agcttttatt 200

catgctaaac aacaatacat tgagcagagc caggcagaaa tttatcataa 250

ccggtttgat gctgtgcaat ctgcacatcg tgctgccaca cgaggcttca 300

ttcgttcatg gctggcgccg aacc 324

<210> 30

<211> 377

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 262, 330, 371

<223> unknown base

<400> 30

tcaagtttgt ccgtaggtcg agagaaggcc atggaggtgc cgccaccggc 50

accgcgagc tttttctgt agagcattgt gcctattcc ccgagtttt 100

gctgccgaag ctgtgactgc cgattcggaa gtccttgagg agcgtcagaa 150

gcggttccc tacgtcccag agccctatta cccggaattt ggatgggacc 200

gcctccggga gctgtttggc aaagatgaac agcagagaat ttcaaaggac 250

cttgctgata tntgtaagac ggcagctaca gcaggcatca ttggctgggt 300

gtatggggga ataccagctt ttattcatgn taaacaaca tacattgagc 350

agagccaggc agaaattat nataacc 377

<210> 31

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 31

tcgtacagtt acgctctccc 20

<210> 32

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 32

cttgaggagc gtcagaagcg 20

<210> 33

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 33

ataacgaatg aagcctcgtg 20

<210> 34

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 34

gctaatatct gtaagacggc agctacagca ggcatcattg 40

<210> 35

<211> 1819

<212> DNA

<213> Homo sapiens

<400> 35

gagccgcccgc cgcgcgcgcg ccgcgactg cagccccagg ccccggcccc 50

ccaccacgt ctgcgttct gccccgctg ggccaggccc caaaggcaag 100

gacaaagcag ctgtcaggga acctccgccg gtagtgaatt tacgtgcagc 150

tgccggcaac cacaggttcc aagatggttt gcgggggctt cgcgtgttcc 200

aagaactgcc tgtgcgcct caacctgctt tacacctgg ttagtctgct 250

gctaattgga attgctgcgt ggggcattgg ctccgggctg attccagtc 300

tccgagtgtt cggcgtggtc attgcagtgg gcattcttct gttcctgatt 350

gcttagtggt gtctgattgg agctgtaaaa catcatcagg tgttgctatt 400

ttttatatg attattctgt tacttgatt tattgttcag ttttctgat 450

cttgcgcttg ttagccctg aaccaggagc aacagggtca gcttctggag 500

gttggttga acaatacggc aagtgctcga aatgacatcc agagaaatct 550

aaactgctgt gggttccgaa gtgtaacc aaatgacacc tgctggcta 600  
gctgtgtaa aagtgaccac tcgtgctgc catgtgctcc aatcatagga 650  
gaatatgctg gagaggttt gagattgtt ggtggcatig gcctgttctt 700  
cagttttaca gagatcctgg gtgttggct gacctacaga tacaggaacc 750  
agaaagacc cgcgcgaat cctagtcat tccttggatg agaaaacaag 800  
gaagattcc ttcgtatta tgatctgtt cactttctgt aattttctgt 850  
taagctccat ttgccagttt aaggaaggaa acactatctg gaaaagtacc 900  
ttattgatag tggaattata tatttttact ctatgtttct ctacatgttt 950  
tttctttcc gttgctgaaa aatattgaa acttgtggtc tctgaagctc 1000  
ggtggcacct ggaatttact gtattcattg tcgggcaactg tccactgtgg 1050  
cctttcttag catttttacc tgcagaaaaa ctttggatgg taccactgtg 1100  
ttggtatat ggtgaatctg aacgtacatc tcaactggtat aattatatgt 1150  
agcactgtgc tgtgtagata gttcctactg gaaaaagagt ggaaattat 1200  
taaaatcaga aagtatgaga tcctgttatg ttaagggaaa tccaaattcc 1250  
caatttttt ttgtctttt aggaaagatt gttgtggtaa aaagtgttag 1300  
tataaaaatg ataatttact tgtagctttt tatgattaca ccaatgtatt 1350  
ctagaaatag ttatgtctta ggaaattgtg gtttaatttt tgacttttac 1400  
aggtaagtgc aaaggagaag tggtttcatg aaatgttcta atgtataata 1450  
acatttacct tcagcctcca tcagaatgga acgagtttg agtaatcagg 1500  
aagtatatct atatgatctt gatattgttt tataataatt tgaagtctaa 1550  
aagactgcat ttttaacaa gttagtatta atgctgtggc ccacgtagca 1600  
aaaagatatt tgattatctt aaaaattgtt aaataccgtt tcatgaaat 1650  
ttctcagtat tgtaacagca acttgcataa cctaagcata tttgaaatg 1700

atctcccata attgaaatt gaaatcgat tgtgtggctc tgtatattct 1750

gttaaaaaat taaaggacag aaaccttct ttgtgtatgc atgtttgaat 1800

taaaagaaag taatggaag 1819

<210> 36

<211> 204

<212> PRT

<213> Homo sapiens

<400> 36

Met Val Cys Gly Gly Phe Ala Cys Ser Lys Asn Cys Leu Cys Ala  
1 5 10 15

Leu Asn Leu Leu Tyr Thr Leu Val Ser Leu Leu Leu Ile Gly Ile  
20 25 30

Ala Ala Trp Gly Ile Gly Phe Gly Leu Ile Ser Ser Leu Arg Val  
35 40 45

Val Gly Val Val Ile Ala Val Gly Ile Phe Leu Phe Leu Ile Ala  
50 55 60

Leu Val Gly Leu Ile Gly Ala Val Lys His His Gln Val Leu Leu  
65 70 75

Phe Phe Tyr Met Ile Ile Leu Leu Leu Val Phe Ile Val Gln Phe  
80 85 90

Ser Val Ser Cys Ala Cys Leu Ala Leu Asn Gln Glu Gln Gln Gly  
95 100 105

Gln Leu Leu Glu Val Gly Trp Asn Asn Thr Ala Ser Ala Arg Asn  
110 115 120

Asp Ile Gln Arg Asn Leu Asn Cys Cys Gly Phe Arg Ser Val Asn  
125 130 135

Pro Asn Asp Thr Cys Leu Ala Ser Cys Val Lys Ser Asp His Ser  
140 145 150

Cys Ser Pro Cys Ala Pro Ile Ile Gly Glu Tyr Ala Gly Glu Val  
155 160 165

Leu Arg Phe Val Gly Gly Ile Gly Leu Phe Phe Ser Phe Thr Glu  
170 175 180

Ile Leu Gly Val Trp Leu Thr Tyr Arg Tyr Arg Asn Gln Lys Asp  
185 190 195

Pro Arg Ala Asn Pro Ser Ala Phe Leu  
200

<210> 37  
<211> 390  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 20, 35, 61, 83, 106, 130, 133, 187, 232, 260, 336  
<223> unknown base

<400> 37  
tgattggagc tgtaaaaaan tcttcaggtg ttgnatattt ttatatgat 50

tattctgtaa nttgtattta ttgttcagtt ttntgtatct tgcgcttgtt 100

tagccttgaa ccaggagcaa cagggtcagn ttntggaggt tggttggaac 150

aatacggcaa gtgctcgaaa tgacatccag agaaatntaa actgctgtgg 200

gttccgaagt gttaacccaa atgacacctg tntggctagc tgtgttaaaa 250

gtgaccactn gtgctcgcca tgtgtccaa tcataggaga atatgctgga 300

gaggttttga gattgttgg tggcattggc ctgtnttca gttttacaga 350

gatcctgggt gtttgctga cctacagata caggaaccag 390

<210> 38  
<211> 566  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 27  
<223> unknown base

<400> 38

aatcccaaat tccccaattt tttggnctt tttaggaaa gatgtgtgt 50

ggtaaaaagt gtagtataa aaatgataat ttactttag tctttatga 100

ttacaccaat gtattctaga atagtatgt cttaggaaat tgtggttaa 150

ttttgactt ttacaggtaa gtgcaaagga gaagtggttt catgaaatgt 200

tctaattgat aataacattt accttcagcc tccatcaga atggaacgag 250

ttttgagtaa tccaggaagt atatctatat gatcttgata ttgtttata 300

taattgaag tctaaaagac tgcattttta aacaagttag tattaatgcg 350

tggcccacg tagcaaaaag atatttgatt atcttaaaaa ttgtaaata 400

ccgtttcat gaaagttctc agtattgtaa cagcaacttg tcaaacctaa 450

gcatattga atatgatctc ccataattg aaattgaaat cgtatttgt 500

ggaggaaatg gcaatcttat gtgtgctgaa ggacacagta agagcaccaa 550

gttgtgcccc acttgc 566

<210> 39

<211> 264

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 84-85, 206

<223> unknown base

<400> 39

atgattatc tgttacttgt atttattgtt cagttttatg gtatcttgcg 50

cttgtttagc ccctgaaacc aggagcaaca gggnnacagct tcttgagggt 100

tggttggcaa caatcacggc caagtgactc cgcaaatgac atcccagaga 150

aatcctaaac tgcgtgggt tccgaagtgt taaccctaat gacacctgtc 200

tggctngctg tgttaaaagt gaccactcgt gctcgccatg tgcctcaatc 250



ataggagaat atgc 264

<210> 40

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 40

accacgtct gcgttgctgc c 21

<210> 41

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 41

gagaatatgc tggagagg 18

<210> 42

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 42

aggaatgcac taggattcgc gcgg 24

<210> 43

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 43

ggccccaag gcaaggacaa agcagctgtc agggaacctc cgccg 45

<210> 44  
<211> 2061  
<212> DNA  
<213> Homo sapiens

<400> 44  
cagtcacat gaagctgggc tgtgtcctca tggcctgggc cctctacctt 50  
tccttgggtg tgctctgggt ggcccagatg ctactggctg ccagtttga 100  
gacgtgcag tgtgaggac ctgtctgcac tgaggagagc agctgccaca 150  
cggaggatga cttgactgat gcaaggaag ctggcttcca ggtaaggcc 200  
tacacttca gtgaaccctt ccactgatt gtgtcctatg actggctgat 250  
cctccaaggt ccagccaagc cagttttga aggggacctg ctggttctgc 300  
gtgccaggc ctggcaagac tggccactga ctcaggtgac ctctaccga 350  
gatggctcag ctctgggtcc cccgggctt aacagggaat tctccatcac 400  
cgtgttaca aaggcagaca gggggacta cactgcagt ggcatcttc 450  
agagccctgg tctgggatc ccagaaacag catctgtgt ggctatcaca 500  
gtccaagaac tgtttccagc gccaattctc agagctgtac cctcagctga 550  
acccaagca ggaagcccca tgaccctgag ttgtcagaca aagttgccc 600  
tgcagagtc agtgcccgc ctctcttct cttctacaa ggatggaagg 650  
atagtcaaa gcagggggct ctctcagaa ttcagatcc ccacagcttc 700  
agaagatcac tccgggtcat actggtgtga ggcagccact gaggacaacc 750  
aagtttgaa acagagcccc cagctagaga tcagagtgca ggtgcttcc 800  
agctctgctg caccctccac attgaatcca gtcctcaga aatcagctgc 850  
tccaggaact gctctgagg agggccctgg gcctctgcct ccgccgcaa 900  
ccccatctc tgaggatcca ggcttttctt ctctctggg gatgccagat 950  
cctcatctgt ataccagat gggccttctt ctcaaacaca tgcaggatgt 1000

gagagtcctc ctoggtcacc tgctcatgga gttgagggaa ttatctggcc 1050  
accagaagcc tgggaccaca aaggctactg ctgaatagaa gtaaacagtt 1100  
catccatgat ctacttaac caccccaata aatctgattc tttattttct 1150  
cttctgtcc tgcacatatg cataagtact ttacaagtt gtcccagtgt 1200  
ttgttagaa taatgtagtt aggtgagtgt aaataaattt atataaagt 1250  
agaattagag tttagctata attgtgtatt ctctcttaac acaacagaat 1300  
tctgtgtct agatcaggaa ttctatctg ttatatcgac cagaatgttg 1350  
tgatttaaag agaactaatg gaagtggatt gaatacagca gtctcaactg 1400  
ggggcaattt tgccccccag aggacattgg gcaatgttg gagacatttt 1450  
ggtcattata cttgggggggt tgggggatgg tgggatgtgt gtctactggc 1500  
atccagtaaa tagaagccag ggggtgccgct aaacatccta taatgcacag 1550  
ggcagtaccc cacaacgaaa aataatctgg cccaaaatgt cagttgtact 1600  
gagttgaga aaccccagcc taatgaaacc ctaggtgttg ggctctggaa 1650  
tgggactttg tcccttctaa ttattatctc ttccagcct cattcagcta 1700  
ttcttactga cataaccagtc tttagctggg gctatggctt gttctttagt 1750  
tctagttgt atcccccaa aagccattat gttgaaatcc taatccccaa 1800  
ggtgatggca ttaagaagtg ggcctttggg aagtgattag atcaggagtg 1850  
cagagccctc atgattagga ttagtgcctt tatttaaaaa ggccccagag 1900  
agctaactca cccttcacc atatgaggac gtggcaagaa gatgacatgt 1950  
atgagaacca aaaaacagct gtcgccaac accgactctg tcgttcctt 2000  
gatcttgaac ttccagcctc cagaactatg agaaataaaa ttctggttgt 2050  
ttgtagccta a 2061

<211> 359

<212> PRT

<213> Homo sapiens

<400> 45

Met Lys Leu Gly Cys Val Leu Met Ala Trp Ala Leu Tyr Leu Ser  
1 5 10 15

Leu Gly Val Leu Trp Val Ala Gln Met Leu Leu Ala Ala Ser Phe  
20 25 30

Glu Thr Leu Gln Cys Glu Gly Pro Val Cys Thr Glu Glu Ser Ser  
35 40 45

Cys His Thr Glu Asp Asp Leu Thr Asp Ala Arg Glu Ala Gly Phe  
50 55 60

Gln Val Lys Ala Tyr Thr Phe Ser Glu Pro Phe His Leu Ile Val  
65 70 75

Ser Tyr Asp Trp Leu Ile Leu Gln Gly Pro Ala Lys Pro Val Phe  
80 85 90

Glu Gly Asp Leu Leu Val Leu Arg Cys Gln Ala Trp Gln Asp Trp  
95 100 105

Pro Leu Thr Gln Val Thr Phe Tyr Arg Asp Gly Ser Ala Leu Gly  
110 115 120

Pro Pro Gly Pro Asn Arg Glu Phe Ser Ile Thr Val Val Gln Lys  
125 130 135

Ala Asp Ser Gly His Tyr His Cys Ser Gly Ile Phe Gln Ser Pro  
140 145 150

Gly Pro Gly Ile Pro Glu Thr Ala Ser Val Val Ala Ile Thr Val  
155 160 165

Gln Glu Leu Phe Pro Ala Pro Ile Leu Arg Ala Val Pro Ser Ala  
170 175 180

Glu Pro Gln Ala Gly Ser Pro Met Thr Leu Ser Cys Gln Thr Lys  
185 190 195

Leu Pro Leu Gln Arg Ser Ala Ala Arg Leu Leu Phe Ser Phe Tyr

200	205	210
Lys Asp Gly Arg Ile Val Gln Ser Arg Gly Leu Ser Ser Glu Phe		
215	220	225
Gln Ile Pro Thr Ala Ser Glu Asp His Ser Gly Ser Tyr Trp Cys		
230	235	240
Glu Ala Ala Thr Glu Asp Asn Gln Val Trp Lys Gln Ser Pro Gln		
245	250	255
Leu Glu Ile Arg Val Gln Gly Ala Ser Ser Ser Ala Ala Pro Pro		
260	265	270
Thr Leu Asn Pro Ala Pro Gln Lys Ser Ala Ala Pro Gly Thr Ala		
275	280	285
Pro Glu Glu Ala Pro Gly Pro Leu Pro Pro Pro Pro Thr Pro Ser		
290	295	300
Ser Glu Asp Pro Gly Phe Ser Ser Pro Leu Gly Met Pro Asp Pro		
305	310	315
His Leu Tyr His Gln Met Gly Leu Leu Leu Lys His Met Gln Asp		
320	325	330
Val Arg Val Leu Leu Gly His Leu Leu Met Glu Leu Arg Glu Leu		
335	340	345
Ser Gly His Gln Lys Pro Gly Thr Thr Lys Ala Thr Ala Glu		
350	355	

<210> 46  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 46  
 tgggctgtgt cctcatgg 18

<210> 47  
 <211> 18

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 47  
ttccagcgc caattctc 18

<210> 48  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 48  
agttcttggc ctgtgatgc cac 23

<210> 49  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 49  
aaacttggt gtcctcagtg gctg 24

<210> 50  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 50  
gtgagggacc tgtctgcact gaggagagca gctgccacac ggagg 45

<210> 51  
<211> 2181  
<212> DNA

<213> Homo sapiens

<400> 51

cccacgctc cgcccacgg tccgccacg ggtccgccca cgcgtccggg 50  
ccaccagaag ttgagcctc ttggtagca ggaggctgga agaaaggaca 100  
gaagtagctc tggctgat ggggatctta ctggcctgc tactcctggg 150  
gcacctaaca gtggacactt atggcctcc catcctggaa gtgccagaga 200  
gtgtaacagg accttgaaa ggggatgta atcttcctg cacctatgac 250  
cccctgaag gctacacca agtcttggtg aagtggctgg tacaacgtgg 300  
ctcagacct gtcaccatct ttctacgta ctctctgga gaccatatcc 350  
agcaggcaaa gtaccagggc cgcctgcatg tgagccacaa ggttccagga 400  
gatgatccc tccaattgag caccctggag atggatgacc ggagccacta 450  
cacgtgtgaa gtcacctggc agactcctga tggcaaccaa gtcgtgagag 500  
ataagattac tgagctcctg gtccagaaac tctctgtctc caagcccaca 550  
gtgacaactg gcagcggta tggcttcacg gtgccccagg gaatgaggat 600  
tagcctcaa tgccaggctc ggggttctcc tccatcagt tatatttgg 650  
ataagcaaca gactaataac caggaacca tcaaagtagc aaccctaagt 700  
accttactct tcaagcctgc ggtgatagcc gactcaggct cctatttctg 750  
cactgccaag ggccagggtg gctctgagca gcacagcgac attgtgaagt 800  
ttgtgtcaa agactcctca aagctactca agaccaagac tgaggcacct 850  
acaacatga catacccctt gaaagcaaca tctacagtga agcagtcctg 900  
ggactggacc actgacatgg atggctacct tggagagacc agtgctgggc 950  
caggaaagag cctgcctgctc ttgccaatca tctcatcat ctcttgtgc 1000  
tgtatggtgg tttttaccat gcctatatc atgctctgtc ggaagacatc 1050

ccaacaagag catgtctacg aagcagccag gtaagaaagt ctctcctt 1100  
ccatthttga cccctcct gccctcaatt ttgattactg gcaggaaatg 1150  
tggaggaagg ggggtgtggc acagaccaa tcctaaggcc ggaggccttc 1200  
agggtcagga catagctgcc ttcctctct caggcacctt ctgaggtgt 1250  
ttggccctc tgaacacaaa ggataattta gatccatctg ccttctgctt 1300  
ccagaatccc tgggtggtag gatcctgata attaattggc aagaattgag 1350  
gcagaagggt gggaaaccag gaccacagcc ccaagtcctt tcttatgggt 1400  
ggtgggctct tgggcatag ggcacatgcc agagaggcca acgactctgg 1450  
agaaaccatg aggggtggcca tcttcgcaag tggctgctcc agtgatgagc 1500  
caacttcca gaatctgggc aacaactact ctgatgagcc ctgcatagga 1550  
caggagtacc agatcatgc ccagatcaat ggcaactacg cccgctgct 1600  
ggacacagtt cctctggatt atgagtttct ggccactgag ggcaaaagt 1650  
tctgttaaaa atgccccatt aggccaggat ctgctgacat aattgcctag 1700  
tcagtcttg ccttctgcat ggccttctc cctgctacct ctcttctgg 1750  
atagcccaaa gtgtccgctt accaactctg gagccgctgg gagtcaactg 1800  
ctttgccctg gaattgcca gatgcatctc aagtaagcca gctgctggat 1850  
ttggctctgg gcccttctag tatctctgcc gggggcttct ggtactctc 1900  
tctaaatacc agaggaaga tgccatagc actaggactt ggtcatcatg 1950  
cctacagaca ctattcaact ttggcatctt gccaccagaa gacccgagg 2000  
aggctcagct ctgccagctc agaggaccag ctatatccag gatcatttct 2050  
ctttctcag ggccagacag ctttaattg aaattgttat ttcacaggcc 2100  
agggttcagt tctgctctc cactataagt ctaatgttct gactctctcc 2150  
tgggtctcaa taaatatcta atcataacag c 2181



<210> 52  
<211> 321  
<212> PRT  
<213> Homo sapiens

<400> 52  
Met Gly Ile Leu Leu Gly Leu Leu Leu Leu Gly His Leu Thr Val  
1 5 10 15

Asp Thr Tyr Gly Arg Pro Ile Leu Glu Val Pro Glu Ser Val Thr  
20 25 30

Gly Pro Trp Lys Gly Asp Val Asn Leu Pro Cys Thr Tyr Asp Pro  
35 40 45

Leu Gln Gly Tyr Thr Gln Val Leu Val Lys Trp Leu Val Gln Arg  
50 55 60

Gly Ser Asp Pro Val Thr Ile Phe Leu Arg Asp Ser Ser Gly Asp  
65 70 75

His Ile Gln Gln Ala Lys Tyr Gln Gly Arg Leu His Val Ser His  
80 85 90

Lys Val Pro Gly Asp Val Ser Leu Gln Leu Ser Thr Leu Glu Met  
95 100 105

Asp Asp Arg Ser His Tyr Thr Cys Glu Val Thr Trp Gln Thr Pro  
110 115 120

Asp Gly Asn Gln Val Val Arg Asp Lys Ile Thr Glu Leu Arg Val  
125 130 135

Gln Lys Leu Ser Val Ser Lys Pro Thr Val Thr Thr Gly Ser Gly  
140 145 150

Tyr Gly Phe Thr Val Pro Gln Gly Met Arg Ile Ser Leu Gln Cys  
155 160 165

Gln Ala Arg Gly Ser Pro Pro Ile Ser Tyr Ile Trp Tyr Lys Gln  
170 175 180

Gln Thr Asn Asn Gln Glu Pro Ile Lys Val Ala Thr Leu Ser Thr  
185 190 195

Leu Leu Phe Lys Pro Ala Val Ile Ala Asp Ser Gly Ser Tyr Phe  
200 205 210

Cys Thr Ala Lys Gly Gln Val Gly Ser Glu Gln His Ser Asp Ile  
215 220 225

Val Lys Phe Val Val Lys Asp Ser Ser Lys Leu Leu Lys Thr Lys  
230 235 240

Thr Glu Ala Pro Thr Thr Met Thr Tyr Pro Leu Lys Ala Thr Ser  
245 250 255

Thr Val Lys Gln Ser Trp Asp Trp Thr Thr Asp Met Asp Gly Tyr  
260 265 270

Leu Gly Glu Thr Ser Ala Gly Pro Gly Lys Ser Leu Pro Val Phe  
275 280 285

Ala Ile Ile Leu Ile Ile Ser Leu Cys Cys Met Val Val Phe Thr  
290 295 300

Met Ala Tyr Ile Met Leu Cys Arg Lys Thr Ser Gln Gln Glu His  
305 310 315

Val Tyr Glu Ala Ala Arg  
320

<210> 53

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 53

tatccctcca attgagcacc ctgg 24

<210> 54

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 54  
gtcgaagac atccaacaa g 21

<210> 55  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 55  
cttcacaatg tcgctgtgct gctc 24

<210> 56  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 56  
agccaaatcc agcagctggc ttac 24

<210> 57  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 57  
tggatgaccg gagccactac acgtgtgaag tcacctggca gactcctgat 50

<210> 58  
<211> 2458  
<212> DNA  
<213> Homo sapiens

<400> 58  
gcgccgggag cccatctgcc cccaggggca cggggcgcg ggccggctcc 50

cgccccgcac atggctgcag ccacctcgcg cgacccccga ggcgcccgc 100

ccagctcgc c gaggtccgt cggaggcgcc cggccgcccc ggagccaagc 150  
agcaactgag cggggaagcg cccgcgtccg gggatcggga tgcctctct 200  
ccttctctc ttgctagttt cctactatgt tggaaacctg gggactcaca 250  
ctgagatcaa gagagtggca gaggaaaagg tcactttgcc ctgccacat 300  
caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350  
cgataatgaa gggaacaaaa aagtggatgat cacttactcc agtcgtcatg 400  
tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450  
aatttctgg caggagatgc ctcttgacag attgaacctc tgaagcccag 500  
tgatgagggc cggtacacct gtaaggtaa gaattcaggc cgctactgt 550  
ggagccatgt catcttaaaa gtcttagtga gaccatcaa gcccaagtgt 600  
gagttggaag gagagctgac agaaggaagt gacctgactt tgcagtgtga 650  
gtcatctct ggcacagagc ccattgtgta ttactggcag cgaatccgag 700  
agaaagagg agaggatgaa cgtctgcctc ccaaactag gattgactac 750  
aaccacctg gacgagtct gctgcagaat ctaccatgt cctactctgg 800  
actgtaccag tgcacagcag gcaacgaagc tgggaaggaa agctgtgtgg 850  
tgcgagtaac tgtacagtat gtacaaagca tcggcatggt tgcaggagca 900  
gtgacaggca tagtggctgg agccctgctg atttctct tgggtggct 950  
gctaaccga aggaaagaca aagaaagata tgaggaagaa gagagaccta 1000  
atgaaattcg agaagatgct gaagctcaa aagcccgtct tgtgaaacc 1050  
agctctctt cctcagctc tcggagctca cgctctggtt ctctctccac 1100  
tcgctccaca gcaaatagt cctcacgcag ccagcggaca ctgtcaactg 1150  
acgcagcacc ccagccaggc ctggccacc aggcatacag cctagtgggg 1200  
ccagaggtga gaggttctga accaaagaaa gtccaccatg ctaatctgac 1250

caaagcagaa accacacca gcatgatccc cagccagagc agagccttcc 1300  
aaacggctg aattacaatg gacttgactc ccacgcttc ctaggagtca 1350  
gggtcttgg actcttctg tcattggagc tcaagtcacc agccacacaa 1400  
ccagatgaga ggtcatctaa gtagcagtga gcattgcacg gaacagattc 1450  
agatgagcat tttcctata caataccaaa caagcaaaag gatgtaagct 1500  
gattcatctg taaaaaggca tcttatttg cctttagacc agagtaaggg 1550  
aaagcaggag tccaaatcta tttgtgacc aggacctgtg gtgagaaggt 1600  
tgggaaagg tgaggtgaat atacctaaaa ctttaatgt gggatattt 1650  
gtatcagtgc tttgattcac aatttcaag aggaaatggg atgctgttg 1700  
taaatttct atgcatttct gcaaacttat tggattatta gttattcaga 1750  
cagtcaagca gaaccacag ccttattaca cctgtctaca ccatgtactg 1800  
agctaaccac ttctaagaaa ctcaaaaaa ggaaacatgt gtctctatt 1850  
ctgacttaac ttcatttgc ataaggttg gatattaatt tcaaggggag 1900  
ttgaaatag gggagatgga gaagagtga tgagtttct cactctata 1950  
ctaactcac tatttatt gagcccaaaa taactatgaa aggagacaaa 2000  
aatttgac aaaggattg gaagagctt ccatctcat gatgtatga 2050  
ggatttga caaacattag aaatatataa tgagcaatt gtggatttc 2100  
cctcaatca gatgcctca aggacttcc tgctagatat ttctggaagg 2150  
agaaaataca acatgcatt tatcaacgct ctagaaaga attctctag 2200  
agaaaaagg atctaggaat gctgaaagat taccaacat accattatag 2250  
tctctctt ctgagaaaat gtgaaaccag aattgcaaga ctgggtggac 2300  
tagaaagga gattagatca gtttctct aatatgtcaa ggaaggtagc 2350  
cgggcatggt gccaggcacc ttaggaaaa tccagcaggt ggaggttga 2400

gtgagccgag attatgcat tgcactccag cctgggtgac agagcgggac 2450

tccgtctc 2458

<210> 59

<211> 373

<212> PRT

<213> Homo sapiens

<400> 59

Met Ser Leu Leu Leu Leu Leu Leu Val Ser Tyr Tyr Val Gly

1 5 10 15

Thr Leu Gly Thr His Thr Glu Ile Lys Arg Val Ala Glu Glu Lys

20 25 30

Val Thr Leu Pro Cys His His Gln Leu Gly Leu Pro Glu Lys Asp

35 40 45

Thr Leu Asp Ile Glu Trp Leu Leu Thr Asp Asn Glu Gly Asn Gln

50 55 60

Lys Val Val Ile Thr Tyr Ser Ser Arg His Val Tyr Asn Asn Leu

65 70 75

Thr Glu Glu Gln Lys Gly Arg Val Ala Phe Ala Ser Asn Phe Leu

80 85 90

Ala Gly Asp Ala Ser Leu Gln Ile Glu Pro Leu Lys Pro Ser Asp

95 100 105

Glu Gly Arg Tyr Thr Cys Lys Val Lys Asn Ser Gly Arg Tyr Val

110 115 120

Trp Ser His Val Ile Leu Lys Val Leu Val Arg Pro Ser Lys Pro

125 130 135

Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr

140 145 150

Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr

155 160 165

Trp Gln Arg Ile Arg Glu Lys Glu Gly Glu Asp Glu Arg Leu Pro

170 175 180

Pro Lys Ser Arg Ile Asp Tyr Asn His Pro Gly Arg Val Leu Leu  
185 190 195

Gln Asn Leu Thr Met Ser Tyr Ser Gly Leu Tyr Gln Cys Thr Ala  
200 205 210

Gly Asn Glu Ala Gly Lys Glu Ser Cys Val Val Arg Val Thr Val  
215 220 225

Gln Tyr Val Gln Ser Ile Gly Met Val Ala Gly Ala Val Thr Gly  
230 235 240

Ile Val Ala Gly Ala Leu Leu Ile Phe Leu Leu Val Trp Leu Leu  
245 250 255

Ile Arg Arg Lys Asp Lys Glu Arg Tyr Glu Glu Glu Glu Arg Pro  
260 265 270

Asn Glu Ile Arg Glu Asp Ala Glu Ala Pro Lys Ala Arg Leu Val  
275 280 285

Lys Pro Ser Ser Ser Ser Ser Gly Ser Arg Ser Ser Arg Ser Gly  
290 295 300

Ser Ser Ser Thr Arg Ser Thr Ala Asn Ser Ala Ser Arg Ser Gln  
305 310 315

Arg Thr Leu Ser Thr Asp Ala Ala Pro Gln Pro Gly Leu Ala Thr  
320 325 330

Gln Ala Tyr Ser Leu Val Gly Pro Glu Val Arg Gly Ser Glu Pro  
335 340 345

Lys Lys Val His His Ala Asn Leu Thr Lys Ala Glu Thr Thr Pro  
350 355 360

Ser Met Ile Pro Ser Gln Ser Arg Ala Phe Gln Thr Val  
365 370

<210> 60

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 60

ccagtgacaca gcaggcaacg aagc 24

<210> 61

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 61

actaggctgt atgcctgggt gggc 24

<210> 62

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 62

gtatgtacaa agcatcggca tggttgcagg agcagtgaca ggc 43

<210> 63

<211> 3534

<212> DNA

<213> Homo sapiens

<400> 63

gtcgttcctt tgctctctcg cgcccagtcc tctccctgg ttctctcag 50

ccgctgtcgg aggagagcac ccggagacgc gggctgcagt cgcggcggct 100

tctccccgcc tggcggcct cgccgctggg caggtgctga gcgccctag 150

agcctccctt gccgcctccc tctctgccc ggccgcagca gtgcacatgg 200

ggtgttgag gtagatgggc tcccgcccc ggaggcggcg gtggatgcgg 250

cgctgggcag aagcagccgc cgattccagc tgccccgcgc gccccggcg 300



cccctgcgag tccccggttc agccatgggg acctctccga gcagcagcac 350  
cgccctgcc tctgcagcc gcacgcccc cggagccaca gccacgatga 400  
tcgctggctc ccttctctg ctggattcc ttagcaccac cacagctcag 450  
ccagaacaga aggcctcgaa tctcattggc acataccgcc atgttgaccg 500  
tgccaccggc caggtgctaa cctgtgaaa ggtccagca ggaacctatg 550  
tctctgagca ttgtaccaac acaagcctgc gcgtctgcag cagttgcct 600  
gtggggacct ttaccaggca tgagaatggc atagagaaat gccatgactg 650  
tagtcagcca tgcccatggc caatgattga gaaattacct tgtgctgct 700  
tgactgaccg agaatgcact tgcccactg gcatgtcca gtctaactg 750  
acctgtgcc cccatacggg gtgtcctgtg ggttggggg tgcggaagaa 800  
agggacagag actgaggatg tgcggtgtaa gcagtgtgct cggggctacct 850  
tctcagatgt gccttctagt gtgatgaaat gcaaagcata cacagactgt 900  
ctgagtcaga acctgggtgt gatcaagccg gggaccaagg agacagacaa 950  
cgtctgtggc aactcccgt ccttctccag ctccacctca cttcccctg 1000  
gcacagccat cttccacgc cctgagcaca tggaaacca tgaagtccct 1050  
tctccactt atgttccaa aggcataaac tcaacagaat ccaactctt 1100  
tgctctgtt agaccaaagg tactgagtag catccaggaa gggacagtcc 1150  
ctgacaacac aagctcagca agggggaagg aagacgtgaa caagaccctc 1200  
ccaaacctt aggtagtcaa ccaccagcaa ggccccacc acagacacat 1250  
cctgaagtgt ctgccgtcca tggaggccac tggggcgag aagtccagca 1300  
cgccatcaa gggcccaag aggggacatc ctgacagaa cctacacaag 1350  
catttgaca tcaatgagca ttgccctgg atgattgtgc tttctgct 1400  
gctggtgctt gtggtgattg tgggtgcag tatccgaaa agctcgagga 1450

ctctgaaaaa ggggccccgg caggatccca gtgccattgt ggaaaaggca 1500  
gggctgaaga aatccatgac tccaaccag aaccgggaga aatggatcta 1550  
ctactgcaat ggccatgta tcgatacct gaagcttga gcagccaag 1600  
tggaagcca gtgaaagat atctatcagt ttcttgcaa tgccagtga 1650  
agggaggtg ctgcttctc caatgggtac acagccgacc acgagcgggc 1700  
ctacgcagt ctgcagcact ggaccatccg gggccccgag gccagcctcg 1750  
cccagctaat tagcgcctg cgccagcacc ggagaaacga tgtgtggag 1800  
aagattcgtg ggctgatgga agacaccacc cagctggaaa ctgacaaact 1850  
agctctccc atgagccca gcccgttag cccgagcccc atcccagcc 1900  
ccaacgcgaa acttgagaat tccgctctcc tgacggtgga gccttccca 1950  
caggacaaga acaaggcctt ctctgtgat gactcggagc ccttctccg 2000  
ctgtgactct acatccagcg gctctccgc gctgagcagg aacggttct 2050  
ttattacaa agaaaagaag gacacagtgt tgcggcaggt acgctggac 2100  
ccctgtgact tgcagcctat cttgatgac atgctccact ttctaaatcc 2150  
tgaggagctg cgggtgattg aagagattcc ccaggctgag gacaaactag 2200  
accggctatt cgaattatt ggagtcaaga gccaggaagc cagccagacc 2250  
ctcctggact ctgttatag ccatcttct gacctgctgt agaacatagg 2300  
gatactgcat tctgaaatt actcaattta gtggcagggt ggtttttaa 2350  
tttctctg ttctgattt ttgtgttg ggggtgtgt gtgtgtgt 2400  
gtgtgtgt gtgtgtgt gtgtgtgt gtttaacaga gaatatggcc 2450  
agtgtgag ttcttctcc ttctctct ctcttttt ttaaataac 2500  
tctctggga agttggtta taagccttg ccaggtgtaa ctgtgtgaa 2550  
ataccacca ctaaagttt ttaagtcca ttttctcc atttgcctt 2600

cttatgtatt tcaagatta ttctgtgcac tttaaatta ctaacttac 2650  
cataaatgca gtgtgacttt tcccacacac tggattgtga ggctctaac 2700  
ttctaaaag tataatggca tcttgtgaat cctataagca gtctttatgt 2750  
ctcttaacat tcacacctac ttttaaaaa caaatattat tactatntt 2800  
attattgttt gtcctttata aattttctta aagattaaga aaatttaaga 2850  
ccccattgag ttactgtaat gcaattcaac ttgagttat cttttaaata 2900  
tgtcttgat agttcatatt catggctgaa actgaccac actattgctg 2950  
attgtatggt tttcacctgg acaccgtgta gaatgcttga ttactgtac 3000  
tcttctatg ctaatatgct ctgggctgga gaaatgaaat cctcaagcca 3050  
tcaggatttg ctatttaagt ggcttgacaa ctgggccacc aaagaacttg 3100  
aactcacct ttaggattt gagctgttct ggaacacatt gctgcacttt 3150  
ggaaagtcaa aatcaagtc cagtggcgcc cttccatag agaattgcc 3200  
cagctttgct ttaaagatg tcttgTTTT tatatacaca taatcaatag 3250  
gtccaatctg ctctcaaggc ctgggtcctg gtgggattcc ttcaccaatt 3300  
actttaatta aaaatggctg caactgtaag aacccttgc tgatatatt 3350  
gcaactatgc tccatttac aaatgtacct tctaatgctc agttgccagg 3400  
ttccaatgca aaggTggcgt ggactccctt tgtgtgggtg gggtttTgtg 3450  
gtagtgtgga aggaccgata tcagaaaaat gccttcaagt gtactaattt 3500  
attaataaac attaggtgtt Tgttaaaaaa aaaa 3534

<210> 64

<211> 655

<212> PRT

<213> Homo sapiens

<400> 64

Met Gly Thr Ser Pro Ser Ser Ser Thr Ala Leu Ala Ser Cys Ser

1	5	10	15
Arg Ile Ala Arg Arg Ala Thr Ala Thr Met Ile Ala Gly Ser Leu			
20	25	30	
Leu Leu Leu Gly Phe Leu Ser Thr Thr Thr Ala Gln Pro Glu Gln			
35	40	45	
Lys Ala Ser Asn Leu Ile Gly Thr Tyr Arg His Val Asp Arg Ala			
50	55	60	
Thr Gly Gln Val Leu Thr Cys Asp Lys Cys Pro Ala Gly Thr Tyr			
65	70	75	
Val Ser Glu His Cys Thr Asn Thr Ser Leu Arg Val Cys Ser Ser			
80	85	90	
Cys Pro Val Gly Thr Phe Thr Arg His Glu Asn Gly Ile Glu Lys			
95	100	105	
Cys His Asp Cys Ser Gln Pro Cys Pro Trp Pro Met Ile Glu Lys			
110	115	120	
Leu Pro Cys Ala Ala Leu Thr Asp Arg Glu Cys Thr Cys Pro Pro			
125	130	135	
Gly Met Phe Gln Ser Asn Ala Thr Cys Ala Pro His Thr Val Cys			
140	145	150	
Pro Val Gly Trp Gly Val Arg Lys Lys Gly Thr Glu Thr Glu Asp			
155	160	165	
Val Arg Cys Lys Gln Cys Ala Arg Gly Thr Phe Ser Asp Val Pro			
170	175	180	
Ser Ser Val Met Lys Cys Lys Ala Tyr Thr Asp Cys Leu Ser Gln			
185	190	195	
Asn Leu Val Val Ile Lys Pro Gly Thr Lys Glu Thr Asp Asn Val			
200	205	210	
Cys Gly Thr Leu Pro Ser Phe Ser Ser Ser Thr Ser Pro Ser Pro			
215	220	225	
Gly Thr Ala Ile Phe Pro Arg Pro Glu His Met Glu Thr His Glu			

230	235	240
Val Pro Ser Ser Thr Tyr Val Pro Lys Gly Met Asn Ser Thr Glu		
245	250	255
Ser Asn Ser Ser Ala Ser Val Arg Pro Lys Val Leu Ser Ser Ile		
260	265	270
Gln Glu Gly Thr Val Pro Asp Asn Thr Ser Ser Ala Arg Gly Lys		
275	280	285
Glu Asp Val Asn Lys Thr Leu Pro Asn Leu Gln Val Val Asn His		
290	295	300
Gln Gln Gly Pro His His Arg His Ile Leu Lys Leu Leu Pro Ser		
305	310	315
Met Glu Ala Thr Gly Gly Glu Lys Ser Ser Thr Pro Ile Lys Gly		
320	325	330
Pro Lys Arg Gly His Pro Arg Gln Asn Leu His Lys His Phe Asp		
335	340	345
Ile Asn Glu His Leu Pro Trp Met Ile Val Leu Phe Leu Leu Leu		
350	355	360
Val Leu Val Val Ile Val Val Cys Ser Ile Arg Lys Ser Ser Arg		
365	370	375
Thr Leu Lys Lys Gly Pro Arg Gln Asp Pro Ser Ala Ile Val Glu		
380	385	390
Lys Ala Gly Leu Lys Lys Ser Met Thr Pro Thr Gln Asn Arg Glu		
395	400	405
Lys Trp Ile Tyr Tyr Cys Asn Gly His Gly Ile Asp Ile Leu Lys		
410	415	420
Leu Val Ala Ala Gln Val Gly Ser Gln Trp Lys Asp Ile Tyr Gln		
425	430	435
Phe Leu Cys Asn Ala Ser Glu Arg Glu Val Ala Ala Phe Ser Asn		
440	445	450
Gly Tyr Thr Ala Asp His Glu Arg Ala Tyr Ala Ala Leu Gln His		

455	460	465
Trp Thr Ile Arg Gly Pro Glu Ala Ser Leu Ala Gln Leu Ile Ser		
470	475	480
Ala Leu Arg Gln His Arg Arg Asn Asp Val Val Glu Lys Ile Arg		
485	490	495
Gly Leu Met Glu Asp Thr Thr Gln Leu Glu Thr Asp Lys Leu Ala		
500	505	510
Leu Pro Met Ser Pro Ser Pro Leu Ser Pro Ser Pro Ile Pro Ser		
515	520	525
Pro Asn Ala Lys Leu Glu Asn Ser Ala Leu Leu Thr Val Glu Pro		
530	535	540
Ser Pro Gln Asp Lys Asn Lys Gly Phe Phe Val Asp Glu Ser Glu		
545	550	555
Pro Leu Leu Arg Cys Asp Ser Thr Ser Ser Gly Ser Ser Ala Leu		
560	565	570
Ser Arg Asn Gly Ser Phe Ile Thr Lys Glu Lys Lys Asp Thr Val		
575	580	585
Leu Arg Gln Val Arg Leu Asp Pro Cys Asp Leu Gln Pro Ile Phe		
590	595	600
Asp Asp Met Leu His Phe Leu Asn Pro Glu Glu Leu Arg Val Ile		
605	610	615
Glu Glu Ile Pro Gln Ala Glu Asp Lys Leu Asp Arg Leu Phe Glu		
620	625	630
Ile Ile Gly Val Lys Ser Gln Glu Ala Ser Gln Thr Leu Leu Asp		
635	640	645
Ser Val Tyr Ser His Leu Pro Asp Leu Leu		
650	655	

<210> 65  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 65

gtagcagtgc acatggggtg ttgg 24

<210> 66

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 66

accgcacatc ctcagtctct gtcc 24

<210> 67

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 67

acgatgatcg cgggctcct tctcctgctt ggattcctta gcaccaccac 50

<210> 68

<211> 2412

<212> DNA

<213> Homo sapiens

<400> 68

atgggaagcc agtaacactg tggcctacta tctcttccgt ggtgccatct 50

acatttttgg gactcgggaa ttatgaggta gaggtggagg cggagccgga 100

tgcagaggct cctgaaatag tcaccatggg ggaaaatgat ccgcctgctg 150

tgaagcccc ctctcattc cgatcgcttt ttggccttga tgattgaaa 200

ataagtctgt ttgcaccaga tgcagatgct gttgctgcac agatcctgtc 250

actgctcca ttgaagtttt ttccaatcat cgtcattggg atcattgcat 300

tgatattagc actggccatt ggtctgggca tccacttga ctgctcaggg 350  
aagtacagat gtcgctcadc cttaagtgt atcgagctga tagctcagtg 400  
tgacggagtc tcggattgca aagacgggga ggacgagtac cgctgtgtcc 450  
gggtgggtgg tcagaatgcc gtgctccagg tgttcacagc tgcttcgtgg 500  
aagaccatgt gctccgatga ctggaagggt cactacgcaa atgtgcctg 550  
tgcccaactg ggtttccaa gctatgtgag ttacagatac ctcagagtga 600  
gctcgtgga ggggcagttc cgggaggagt ttgtgtccat cgatcacctc 650  
ttgccagatg acaagtgac tgcattacac cactcagtat atgtgaggga 700  
gggatgtgcc tctggccacg tggttacctt gcagtgcaca gcctgtggtc 750  
atagaagggg ctacagctca cgcacgtgg gtggaacat gtcctgctc 800  
tcgcagtggc cctggcaggc cagccttcag ttccagggt accacctgtg 850  
cgggggctct gtcacacgc ccctgtggat cactactgct gcacactgtg 900  
tttatgactt gtacctccc aagtcattga ccatccaggt gggctagtt 950  
tcctgttg acaatccagc cccatccac ttggtggaga agattgtcta 1000  
ccacagcaag tacaagcaa agaggctggg caatgacac gcccttatga 1050  
agctggccgg gccactcac ttcaatgaa tgatccagcc tgtgtgctg 1100  
cccaactctg aagagaactt ccccgatgga aaagtgtgct ggacgtcagg 1150  
atggggggcc acagaggatg gaggtgacgc ctcccctgc ctgaaccag 1200  
cgccctccc ttgatttc aacaagatct gcaaccacag ggacgtgtac 1250  
ggtggcatca tctccccctc catgctctgc gcgggctacc tgacgggtgg 1300  
cgtggacagc tgccaggggg acagcggggg gcccctggtg tgtcaagaga 1350  
ggaggctgtg gaagttagtg ggagcgacca gctttggcat cggtgcgca 1400  
gaggtgaaca agcctggggg gtacaccgt gtcacctct tcttgactg 1450



gatccacgag cagatggaga gagacctaaa aacctgaaga ggaaggggac 1500  
aagtagccac ctgagttcct gaggtgatga agacagcccg atcctcccct 1550  
ggactcccgt gtaggaacct gcacacgagc agacaccctt ggagctctga 1600  
gttccggcac cagtagcagg cccgaaagag gcaccctcc atctgattcc 1650  
agcacaacct tcaagctgct tttgtttt tgtttttg aggtggagtc 1700  
tcgctctgtt gccaggctg gaggcagtg gcgaaatccc tgctactgc 1750  
agcctccgt tccctggtc aagcgattct cttgcctcag ctccccagt 1800  
agctgggacc acaggtgcc gccaccacac ccaactaatt tttgtattt 1850  
tagtagagac aggtttcac catgttgcc aggctgctct caaacccctg 1900  
acctcaatg atgtgcctgc ttcagcctcc cacagtgtg ggattacagg 1950  
catgggccac cagcctagc ctcacgctcc tttctgatct tactaagaa 2000  
caaaagaagc agcaactgc aaggcggcc tttccactg gtccatctgg 2050  
tttctctcc aggtcttgcc aaaattcctg acgagataag cagttatgtg 2100  
acctcacgtg caaagccacc aacagccact cagaaaagac gcaccagccc 2150  
agaagtgcag aactgcagtc actgcacgtt ttcactcta gggaccagaa 2200  
ccaaaccac ctttctact tccaagactt atttcacat gtggggaggt 2250  
taatctagga atgactcgtt taaggcctat tttcatgatt tttttagc 2300  
atttggctgct tgactatta ttgcctttg attccaaata atatgttcc 2350  
ttcctcatt gtctggcgtg tctgcgtgga ctggtgacgt gaatcaaat 2400  
catccactga aa 2412

<210> 69

<211> 453

<212> PRT

<213> Homo sapiens

<400> 69

Met Gly Glu Asn Asp Pro Pro Ala Val Glu Ala Pro Phe Ser Phe  
1 5 10 15

Arg Ser Leu Phe Gly Leu Asp Asp Leu Lys Ile Ser Pro Val Ala  
20 25 30

Pro Asp Ala Asp Ala Val Ala Ala Gln Ile Leu Ser Leu Leu Pro  
35 40 45

Leu Lys Phe Phe Pro Ile Ile Val Ile Gly Ile Ile Ala Leu Ile  
50 55 60

Leu Ala Leu Ala Ile Gly Leu Gly Ile His Phe Asp Cys Ser Gly  
65 70 75

Lys Tyr Arg Cys Arg Ser Ser Phe Lys Cys Ile Glu Leu Ile Ala  
80 85 90

Arg Cys Asp Gly Val Ser Asp Cys Lys Asp Gly Glu Asp Glu Tyr  
95 100 105

Arg Cys Val Arg Val Gly Gly Gln Asn Ala Val Leu Gln Val Phe  
110 115 120

Thr Ala Ala Ser Trp Lys Thr Met Cys Ser Asp Asp Trp Lys Gly  
125 130 135

His Tyr Ala Asn Val Ala Cys Ala Gln Leu Gly Phe Pro Ser Tyr  
140 145 150

Val Ser Ser Asp Asn Leu Arg Val Ser Ser Leu Glu Gly Gln Phe  
155 160 165

Arg Glu Glu Phe Val Ser Ile Asp His Leu Leu Pro Asp Asp Lys  
170 175 180

Val Thr Ala Leu His His Ser Val Tyr Val Arg Glu Gly Cys Ala  
185 190 195

Ser Gly His Val Val Thr Leu Gln Cys Thr Ala Cys Gly His Arg  
200 205 210

Arg Gly Tyr Ser Ser Arg Ile Val Gly Gly Asn Met Ser Leu Leu  
215 220 225

Ser Gln Trp Pro Trp Gln Ala Ser Leu Gln Phe Gln Gly Tyr His  
230 235 240

Leu Cys Gly Gly Ser Val Ile Thr Pro Leu Trp Ile Ile Thr Ala  
245 250 255

Ala His Cys Val Tyr Asp Leu Tyr Leu Pro Lys Ser Trp Thr Ile  
260 265 270

Gln Val Gly Leu Val Ser Leu Leu Asp Asn Pro Ala Pro Ser His  
275 280 285

Leu Val Glu Lys Ile Val Tyr His Ser Lys Tyr Lys Pro Lys Arg  
290 295 300

Leu Gly Asn Asp Ile Ala Leu Met Lys Leu Ala Gly Pro Leu Thr  
305 310 315

Phe Asn Glu Met Ile Gln Pro Val Cys Leu Pro Asn Ser Glu Glu  
320 325 330

Asn Phe Pro Asp Gly Lys Val Cys Trp Thr Ser Gly Trp Gly Ala  
335 340 345

Thr Glu Asp Gly Gly Asp Ala Ser Pro Val Leu Asn His Ala Ala  
350 355 360

Val Pro Leu Ile Ser Asn Lys Ile Cys Asn His Arg Asp Val Tyr  
365 370 375

Gly Gly Ile Ile Ser Pro Ser Met Leu Cys Ala Gly Tyr Leu Thr  
380 385 390

Gly Gly Val Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val  
395 400 405

Cys Gln Glu Arg Arg Leu Trp Lys Leu Val Gly Ala Thr Ser Phe  
410 415 420

Gly Ile Gly Cys Ala Glu Val Asn Lys Pro Gly Val Tyr Thr Arg  
425 430 435

Val Thr Ser Phe Leu Asp Trp Ile His Glu Gln Met Glu Arg Asp  
440 445 450

Leu Lys Thr

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 70

tgacatgcc cttatgaagc tggc 24

<210> 71

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 71

tacacgtccc tgtggttgca gatc 24

<210> 72

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 72

cgttcaatgc agaaatgatc cagcctgtgt gcctgcccaa ctctgaagag 50

<210> 73

<211> 3305

<212> DNA

<213> Homo sapiens

<400> 73

cccacgcgtc cgtcctagtc cccgggcca ctcggacagt ttgctcattt 50

attgcaacgg tcaaggctgg cttgtgccag aacggcgcgc gcgcgcgcac 100

gcacgcacac acacgggggg aaacttttt aaaaatgaaa ggctagaaga 150  
gctcagcggc ggcgcgggcg ctgcgcgagg gctccggagc tgactcgccg 200  
aggcaggaaa tcctccggt cgcgacgcc ggccccggct cggcgcccgc 250  
gtgggatggt gcagcgtcg ccgccgggcc cgagagctgc tgactgaag 300  
gccggcgacg atggcagcgc gcccgctgcc cgtgtcccc gcccgcccc 350  
tctgctcgc cctggccggt gctctgctcg cgcctgcga ggccccgagg 400  
gtgagcttat ggaaccaagg aagagctgat gaagttgtca gtgcctctgt 450  
tcggagtggg gacctctgga tcccagtga gagcttcgac tccaagaatc 500  
atccagaagt gctgaatatt cgactacaac gggaaagcaa agaactgatc 550  
ataaatctgg aaagaaatga aggtctcatt gccagcagtt tcacggaaac 600  
ccactatctg caagacgta ctgatgtct cctcgtcga aattacacgg 650  
gtcactgta ctaccatgga catgtacggg gatattctga ttcagcagtc 700  
agtctcagca cgtgttctgg tctcagggga cttattgtgt ttgaaatga 750  
aagctatgct ttagaaccaa tgaaaagtgc aaccaacaga tacaactct 800  
tcccagcgaa gaagctgaaa agcgtccggg gatcatgtgg atcacatcac 850  
aacacaccaa acctcgtgc aaagaatgtg ttccaccac cctctcagac 900  
atgggcaaga aggcataaaa gagagaccct caaggcaact aagtatgtgg 950  
agctggtgat cgtggcagac aaccgagagt tcagaggca aggaaaagat 1000  
ctggaaaaag ttaagcagcg attaatagag attgctaac acgttgacaa 1050  
gttttacaga cactgaaca ttcggatcgt gttggtaggc gtggaagtgt 1100  
ggaatgacat ggacaaatgc tctgtaagtc aggaccatt caccagctc 1150  
catgaattc tggactggag gaagatgaag ctctacctc gcaaatccca 1200  
tgacaatgcg cagcttgtca gtggggtta ttccaagg accaccatcg 1250

gcatggcccc aatcatgagc atgtgcacgg cagaccagtc tgggggaatt 1300  
gcatggacc attcagacaa tccccttggg gcagccgtga ccctggcaca 1350  
tgagctgggc cacaatttcg ggatgaatca tgacacactg gacaggggct 1400  
gtagctgtca aatggcgggt gagaaaggag gctgcatcat gaacgcttc 1450  
accgggtacc catttccat ggtgttcagc agttgcagca ggaaggactt 1500  
ggagaccagc ctggagaaag gaatgggggt gtcctgttt aacctgccgg 1550  
aagtcaggga gtcttcggg ggccagaagt gtgggaacag atttgtggaa 1600  
gaaggagagg agtgtgactg tggggagcca gaggaatgta tgaatcgtg 1650  
ctgcaatgcc accacctgta cctgaagcc ggacgtgtg tgcgcacatg 1700  
ggctgtgctg tgaagactgc cagctgaagc ctgcaggaac agcgtgcagg 1750  
gactccagca actcctgtga cctcccagag ttctgcacag gggccagccc 1800  
tactgcccga gccaatgtgt acctgcacga tgggcaactca tgcaggatg 1850  
tgacaggcta ctgctacaat ggcatctgcc agactcacga gcagcagtgt 1900  
gtcacgtctt ggggaccagg tgctaaacct gcccctggga tctgctttga 1950  
gagagtcaat tctgcagggtg atccttatgg caactgtggc aaagtctcga 2000  
agagttcctt tgccaaatgc gagatgagag atgctaaatg tggaaaaatc 2050  
cagtgtcaag gaggtgccag ccggccagtc attggtacca atgccgttc 2100  
catagaaaca aacatccctc tgcagcaagg aggccggatt ctgtgccggg 2150  
ggaccacgt gtacttgggc gatgacatgc cggaccaggg gcttgtgctt 2200  
gcaggcacia agtgtgcaga tggaaaaatc tgcctgaatc gtcaatgtca 2250  
aaatattagt gtctttgggg ttcacgagtg tgcaatgcag tgccacggca 2300  
gaggggtgtg caacaacagg aagaactgcc actgagagc cactgggca 2350  
cctcccttct gtgacaagtt tggctttgga ggaagcacag acagcgcccc 2400

catccggcaa gcagaagcaa ggcaggaagc tgcagagtcc aacagggagc 2450  
gcggccaggg ccaggagccc gtgggatcgc aggagcatgc gtctactgcc 2500  
tactgacac tcactgagc cctcccatga catggagacc gtgaccagtg 2550  
ctgctgcaga ggaggtcacg cgtccccaag gcctcctgtg actggcagca 2600  
ttgactctgt ggctttgcca tcgtttccat gacaacagac acaacacagt 2650  
tctcggggct caggagggga agtccagcct accaggcacg tctgcagaaa 2700  
cagtgaagg aagggcagcg acttctctgt tgagcttctg ctaaaacatg 2750  
gacatgcttc agtgctgctc ctgagagagt agcaggttac cactctggca 2800  
ggccccagcc ctgcagcaag gaggaagagg actcaaaagt ctggccttc 2850  
actgagcctc cacagcagtg ggggagaagc aagggttggg cccagtgtcc 2900  
cctttccca gtgacacctc agccttggca gcctgatga ctggtctctg 2950  
gctgcaactt aatgctctga tatggctttt agcatttatt atatgaaat 3000  
agcagggttt tagtttttaa ttatcagag acctgccac ccattccatc 3050  
tccatccaag caaactgaat ggcaatgaaa caaactggag aagaagtag 3100  
gagaaagggc ggtgaactct ggctctttgc tgtggacatg cgtgaccagc 3150  
agtactcagg tttgagggtt tgcagaaagc cagggaaccc acagagtcac 3200  
caacccttca ttaacaagt aagaatgta aaaagtgaaa acaatgtaag 3250  
agcctaactc catccccctg ggccattact gcataaata gagtgcattt 3300  
gaaat 3305

<210> 74

<211> 735

<212> PRT

<213> Homo sapiens

<400> 74

Met Ala Ala Arg Pro Leu Pro Val Ser Pro Ala Arg Ala Leu Leu

1	5	10	15
Leu Ala Leu Ala Gly Ala Leu Leu Ala Pro Cys Glu Ala Arg Gly			
20	25	30	
Val Ser Leu Trp Asn Gln Gly Arg Ala Asp Glu Val Val Ser Ala			
35	40	45	
Ser Val Arg Ser Gly Asp Leu Trp Ile Pro Val Lys Ser Phe Asp			
50	55	60	
Ser Lys Asn His Pro Glu Val Leu Asn Ile Arg Leu Gln Arg Glu			
65	70	75	
Ser Lys Glu Leu Ile Ile Asn Leu Glu Arg Asn Glu Gly Leu Ile			
80	85	90	
Ala Ser Ser Phe Thr Glu Thr His Tyr Leu Gln Asp Gly Thr Asp			
95	100	105	
Val Ser Leu Ala Arg Asn Tyr Thr Gly His Cys Tyr Tyr His Gly			
110	115	120	
His Val Arg Gly Tyr Ser Asp Ser Ala Val Ser Leu Ser Thr Cys			
125	130	135	
Ser Gly Leu Arg Gly Leu Ile Val Phe Glu Asn Glu Ser Tyr Val			
140	145	150	
Leu Glu Pro Met Lys Ser Ala Thr Asn Arg Tyr Lys Leu Phe Pro			
155	160	165	
Ala Lys Lys Leu Lys Ser Val Arg Gly Ser Cys Gly Ser His His			
170	175	180	
Asn Thr Pro Asn Leu Ala Ala Lys Asn Val Phe Pro Pro Pro Ser			
185	190	195	
Gln Thr Trp Ala Arg Arg His Lys Arg Glu Thr Leu Lys Ala Thr			
200	205	210	
Lys Tyr Val Glu Leu Val Ile Val Ala Asp Asn Arg Glu Phe Gln			
215	220	225	
Arg Gln Gly Lys Asp Leu Glu Lys Val Lys Gln Arg Leu Ile Glu			



230            235            240

Ile Ala Asn His Val Asp Lys Phe Tyr Arg Pro Leu Asn Ile Arg  
245            250            255

Ile Val Leu Val Gly Val Glu Val Trp Asn Asp Met Asp Lys Cys  
260            265            270

Ser Val Ser Gln Asp Pro Phe Thr Ser Leu His Glu Phe Leu Asp  
275            280            285

Trp Arg Lys Met Lys Leu Leu Pro Arg Lys Ser His Asp Asn Ala  
290            295            300

Gln Leu Val Ser Gly Val Tyr Phe Gln Gly Thr Thr Ile Gly Met  
305            310            315

Ala Pro Ile Met Ser Met Cys Thr Ala Asp Gln Ser Gly Gly Ile  
320            325            330

Val Met Asp His Ser Asp Asn Pro Leu Gly Ala Ala Val Thr Leu  
335            340            345

Ala His Glu Leu Gly His Asn Phe Gly Met Asn His Asp Thr Leu  
350            355            360

Asp Arg Gly Cys Ser Cys Gln Met Ala Val Glu Lys Gly Gly Cys  
365            370            375

Ile Met Asn Ala Ser Thr Gly Tyr Pro Phe Pro Met Val Phe Ser  
380            385            390

Ser Cys Ser Arg Lys Asp Leu Glu Thr Ser Leu Glu Lys Gly Met  
395            400            405

Gly Val Cys Leu Phe Asn Leu Pro Glu Val Arg Glu Ser Phe Gly  
410            415            420

Gly Gln Lys Cys Gly Asn Arg Phe Val Glu Glu Gly Glu Glu Cys  
425            430            435

Asp Cys Gly Glu Pro Glu Glu Cys Met Asn Arg Cys Cys Asn Ala  
440            445            450

Thr Thr Cys Thr Leu Lys Pro Asp Ala Val Cys Ala His Gly Leu

455	460	465
Cys Cys Glu Asp Cys Gln Leu Lys Pro Ala Gly Thr Ala Cys Arg		
470	475	480
Asp Ser Ser Asn Ser Cys Asp Leu Pro Glu Phe Cys Thr Gly Ala		
485	490	495
Ser Pro His Cys Pro Ala Asn Val Tyr Leu His Asp Gly His Ser		
500	505	510
Cys Gln Asp Val Asp Gly Tyr Cys Tyr Asn Gly Ile Cys Gln Thr		
515	520	525
His Glu Gln Gln Cys Val Thr Leu Trp Gly Pro Gly Ala Lys Pro		
530	535	540
Ala Pro Gly Ile Cys Phe Glu Arg Val Asn Ser Ala Gly Asp Pro		
545	550	555
Tyr Gly Asn Cys Gly Lys Val Ser Lys Ser Ser Phe Ala Lys Cys		
560	565	570
Glu Met Arg Asp Ala Lys Cys Gly Lys Ile Gln Cys Gln Gly Gly		
575	580	585
Ala Ser Arg Pro Val Ile Gly Thr Asn Ala Val Ser Ile Glu Thr		
590	595	600
Asn Ile Pro Leu Gln Gln Gly Gly Arg Ile Leu Cys Arg Gly Thr		
605	610	615
His Val Tyr Leu Gly Asp Asp Met Pro Asp Pro Gly Leu Val Leu		
620	625	630
Ala Gly Thr Lys Cys Ala Asp Gly Lys Ile Cys Leu Asn Arg Gln		
635	640	645
Cys Gln Asn Ile Ser Val Phe Gly Val His Glu Cys Ala Met Gln		
650	655	660
Cys His Gly Arg Gly Val Cys Asn Asn Arg Lys Asn Cys His Cys		
665	670	675
Glu Ala His Trp Ala Pro Pro Phe Cys Asp Lys Phe Gly Phe Gly		

680 685 690

Gly Ser Thr Asp Ser Gly Pro Ile Arg Gln Ala Glu Ala Arg Gln  
695 700 705

Glu Ala Ala Glu Ser Asn Arg Glu Arg Gly Gln Gly Gln Glu Pro  
710 715 720

Val Gly Ser Gln Glu His Ala Ser Thr Ala Ser Leu Thr Leu Ile  
725 730 735

<210> 75

<211> 483

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 30, 94, 143, 156, 163, 179, 193, 369, 371, 381, 390, 473

<223> unknown base

<400> 75

tccaaggct tcttgatg cagatgattn tggggtttg cattgttcc 50

ctgacaacga aaacaaaaca gtttggggg ttcaggaggg gaantccagc 100

ctaccagga agttgcaga aacagtcaa ggaagggcag ganttcctgg 150

ttgagnttt tgntaaaaca tggacatgnt tcagtgtgc tentgagaga 200

gtagcagggtt accactttg gcaggcccca gccctgcagc aaggaggaag 250

aggactcaa agttggcct ttcactgagc ctccacagca gtgggggaga 300

agcaagggtt gggcccagtg tccccttcc ccagtgcac ctcagccttg 350

gcagccctga taactggint ntggctgcaa nntaatgctn tgataggct 400

tttagcattt attatatgaa aatagcaggg ttttagttt taattatca 450

gagaccctgc cacccattcc atntccatcc aag 483

<210> 76

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 76

gtctcagcac gtgttctggt ctcaggg 27

<210> 77

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 77

catgagcatg tgcacggc 18

<210> 78

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 78

tacctgcacg atgggcac 18

<210> 79

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 79

cactgggcac ctccttc 18

<210> 80

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 80

ctccaggctg gtctccaagt ccttcc 26

<210> 81

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 81

tcctgttgg actctgcagc ttcc 24

<210> 82

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 82

cttcgctggg aagagtttg 19

<210> 83

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 83

gtgcaaccaa cagatacaaa ctcttccag cgaagaagct gaaaagcgtc 50

<210> 84

<211> 1714

<212> DNA

<213> Homo sapiens

<400> 84

catcctgcaa catggtgaaa ccacgcctgg ctaatthtgt tgtatthttg 50  
gtagagatgg gatttcaccg tgtagccag gattgtctca atctgacctc 100  
atgatctgcc cgctcggcc tcccaaagtg ctgggattac aggcgagtgc 150  
aaccacacc gccacaaaac ttttaagaa gtaaatgaaa ccatacctt 200  
tacatthta atgacaggaa aatgctcaca ataattgta acccaaaatt 250  
ctggatacaa aagtacaatc ttactgtgt aaatacatgt atatgtacta 300  
tatgaaaata taccaaatat caataatact tatctctggg taaaacctc 350  
ttctcatacc ctgtgctaac aactthaac aaaaatttg catcactth 400  
aagaatcaag aaaaattct gaaggtcata tgggacagaa aaaaaacca 450  
agggaaaaat cacgccactt gggaaaaaa gattcgaaat ctgccttht 500  
atagattgt aattaataag gtccaggctt tctaagcaac ttaatgth 550  
tgttcgaaa caaagtactt gtctggatgt aggaggaaag ggagtgatgt 600  
cactgccatt atgatcccc ttgaatataa gacctactt gctatctcc 650  
ctgcaccagc caggagccac ccactctca gcacactgag cagcaagtgc 700  
gacacacggc aactgatcc aatgggtaa ggggatggtg gcgatgctca 750  
ttctgggtct gctactctg gcgctgctcc taccctgca gthttctca 800  
thtthctt taaccagtat gccggaagct actgcagccg aaaccacaaa 850  
gccctcaac agtgcctac agctacagc cgtctctt gtggtcttgc 900  
ttgccctt acatcttac cattaagagg caggtcaaga aacagctaca 950  
gthctcaac ccatacacta aaaccgaatc caaatggtgc ctagaagth 1000  
aatgtggcaa gaaaaaac caggtctca tcaaatctac taatthact 1050  
cctattaac agagaaacgc ttgagagtct caaactggac tggthaaag 1100  
agcatctgaa ggattgact agatgataaa tgcctgtact cccagtact 1150

tgggaggcct aggccggcgg atcacctgag gtcaggagtt tgagactaac 1200

ctggccaaaa tggtgaaacc ccatctgtac taaaaataca aatattgact 1250

gggcgtgggt gtgagtgcct gtgatcccag ctactcaggt ggctgaagca 1300

ggacaatcac ttgaactcag gaggcagagg ttgcagtgag ctgagatcgc 1350

gctactgcac tctagcctag cctgggcaac agagtgagac ttcgtctcaa 1400

aaaaaaaaa gccaaagtca gtggctcacg cctgtaatcc cggcactttg 1450

ggaggccgag gtgggcggat cacgaggtca ggagatcaag accatcctgg 1500

ctaatacagt gaaaccctgt ctctactaaa aatacaaaaa attagccggg 1550

gatgtggca ggcacctgga gtcccagcta ctcgggaggc tgaggcagga 1600

gaatagcgtg aactcaggag gcggagcttg cagtgagccg agattgcgct 1650

actgcactcc agcctgggcg acagcgcgag actccgtctc aaaaaaaaaa 1700

aaaaaaaaa aaaa 1714

<210> 85

<211> 67

<212> PRT

<213> Homo sapiens

<400> 85

Met Gly Lys Gly Met Val Ala Met Leu Ile Leu Gly Leu Leu Leu

1 5 10 15

Leu Ala Leu Leu Leu Pro Val Gln Val Ser Ser Phe Val Pro Leu

20 25 30

Thr Ser Met Pro Glu Ala Thr Ala Ala Glu Thr Thr Lys Pro Ser

35 40 45

Asn Ser Ala Leu Gln Pro Thr Ala Gly Leu Leu Val Val Leu Leu

50 55 60

Ala Leu Leu His Leu Tyr His

65

<210> 86  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 86  
acgggcacac tggatcccaa atg 23

<210> 87  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 87  
ggtagagatg tagaaggca agcaagacc 29

<210> 88  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 88  
gctccctacc cgtgcaggtt tcttcattg ttctttaac cagtatgccg 50

<210> 89  
<211> 2956  
<212> DNA  
<213> Homo sapiens

<400> 89  
gccgcggcga gagcgcgcc agccccgccg cgatgccgc gcgcccagga 50  
cgctctcc cgctgctggc ccggccggcg gccctgactg cgctgctgct 100  
gctgctgctg ggccatggcg gcggcgggcg ctggggcgcc cgggcccagg 150



aggcggcggc ggcggcggcg gacgggcccc ccgcggcaga cggcgaggac 200  
ggacaggacc cgcacagcaa gcacctgtac acggccgaca tgttcacgca 250  
cgggatccag agcggcggcg acttcgtcat gttcttcgcg ccctgggtg 300  
gacactgcca gcggtgcag ccgacttga atgacctggg agacaaatac 350  
aacagcatgg aagatgcaa agtctatgtg gctaaagtgg actgcacggc 400  
ccactccgac gtgtgtccg cccagggggg gcgaggatac cccacctaa 450  
agctttcaa gccaggcaa gaagctgtga agtaccaggg tcctcgggac 500  
ttccagacac tggaaaactg gatgtgcag aactgaacg aggagccagt 550  
gacaccagag ccggaagtgg aaccgccag tgccccgag ctcaagcaag 600  
ggctgtatga gctctcagca agcaacttg agctgcacgt tgcacaaggc 650  
gaccactta tcaagttctt cgctccgtgg tgtggctact gcaaagccct 700  
ggctccaacc tgggagcagc tggtctggg cttgaacat tccgaaactg 750  
tcaagattgg caaggtgat gtacacagc actatgaact ctgctccgga 800  
aaccaggtc gtggctatcc cactctctc tggttccgag atgggaaaaa 850  
ggtggatcag tacaaggaa agcgggattt ggagtcactg agggagtacg 900  
tggagtcgca gctgcagcg acagagactg gagcgacgga gaccgtcacg 950  
ccctcagagg ccccggtgct ggcagctgag cccgaggctg acaaggcac 1000  
tgtgttgca ctactgaaa ataactcga tgacaccatt gcagaaggaa 1050  
taacctcat caagtttat gctccatgt gtggctattg taagactctg 1100  
gctctactt gggaggaact ctctaaaaag gaattccctg gtctggcggg 1150  
ggtaagatc gccgaagtag actgactgc tgaacggaat atctgcagca 1200  
agtattcgt acgaggctac cccacgttat tgctttccg aggagggaag 1250  
aaagtcagt agcacagtgg aggcagagac cttgactcgt tacaccgctt 1300

tgtcctgagc caagcгааг acgaacttta ggaacacagt tggaggtcac 1350  
ctctcctgcc cagctcccgc accctgcgtt taggagtca gtcccacaga 1400  
ggccactggg ttccagtggtgg tggctgttca gaaagcagaa catactaagc 1450  
gtgaggtatc ttcttgtgt gtgtgtttc caagccaaca cactctacag 1500  
attctttatt aagttaagtt tctctaagta aatgtgtaac tcatggtcac 1550  
tgtgtaaaca tttcagtggt cgatataatc cctttgacct tctcttgatg 1600  
aaattacat ggtttccttt gagactaaaa tagcgttgag ggaaatgaaa 1650  
ttgctggact attgtggct cctgagttga gtgattttgg tгааггааг 1700  
cacatccaaa gcatagtta cctgcccacg agttctggaa aggtggcctt 1750  
gtggcagtat tgacgttct ctgatctta ggtcacagtt gactcaatac 1800  
tgtgttggtc cgtagcatgg agcagattga aatgcaaaaa cccacacctc 1850  
tggaagatac cttcacggcc gctgctggag cttctgttgc tgtgaatac 1900  
tctctcagtg tgagaggta gccgtgatga aagcagcgtt acttctgacc 1950  
gtgcctgagt aagagaatgc tgatgccata actttatgtg tcgatactg 2000  
tcaaatcagt tactgttcag gggatcctt tgtttctac ggggtgaaa 2050  
atgtctttag ttctcatgt taacacgaag ccagagccca catgaactgt 2100  
tggatgtctt ccttagaaag ggtaggcatg gaaaattcca cgaggctcat 2150  
tctcagtatc tcattaactc attгаагат tccagttgta tttgtcacct 2200  
ggggtgacaa gaccagacag gctttcccag gcctgggtat ccagggaggc 2250  
tctgcagccc tgctгааггг ccctaactag agttctagag ttctgattc 2300  
tgtttctcag tagtctttt agaggcttgc tatacttgggt ctgcttcaag 2350  
gaggtcgacc ttctaagta tгаагатгг gatgcatttg atctcaagac 2400  
caaagacaga tgtcagtggtg ctgctctggc cctgggtgtgc acggctgtgg 2450

cagctgttga tgccagtgc ctctaactca tgctgcctt gtagataaac 2500

acctctatct cccttgggaa taagcacata caggcttaag ctctaagata 2550

gataggtgtt tgcctttta ccatcgagct acttcccata ataaccactt 2600

tgcatccaac actcttcacc cacctcccat acgcaagggg atgtggatac 2650

ttggcccaaa gtaactggtg gtaggaatct tagaaacaag accacttata 2700

ctgtctgtct gaggcagaag ataacagcag catctcgacc agcctctgcc 2750

ttaaaggaaa tctttattaa tcacgatgg ttcacagata attctttttt 2800

taaaaaaacc caacctccta gagaagcaca actgtcaaga gtcttgatac 2850

cacaacttca gctttgcatc acgagtcttg tattccaaga aatcaaagt 2900

ggtacaattt gttgtttac actatgatac ttctaaata aactcttttt 2950

ttttaa 2956

<210> 90

<211> 432

<212> PRT

<213> Homo sapiens

<400> 90

Met Pro Ala Arg Pro Gly Arg Leu Leu Pro Leu Leu Ala Arg Pro  
1 5 10 15

Ala Ala Leu Thr Ala Leu Leu Leu Leu Leu Gly His Gly Gly  
20 25 30

Gly Gly Arg Trp Gly Ala Arg Ala Gln Glu Ala Ala Ala Ala Ala  
35 40 45

Ala Asp Gly Pro Pro Ala Ala Asp Gly Glu Asp Gly Gln Asp Pro  
50 55 60

His Ser Lys His Leu Tyr Thr Ala Asp Met Phe Thr His Gly Ile  
65 70 75

Gln Ser Ala Ala His Phe Val Met Phe Phe Ala Pro Trp Cys Gly  
80 85 90

His Cys Gln Arg Leu Gln Pro Thr Trp Asn Asp Leu Gly Asp Lys  
95 100 105

Tyr Asn Ser Met Glu Asp Ala Lys Val Tyr Val Ala Lys Val Asp  
110 115 120

Cys Thr Ala His Ser Asp Val Cys Ser Ala Gln Gly Val Arg Gly  
125 130 135

Tyr Pro Thr Leu Lys Leu Phe Lys Pro Gly Gln Glu Ala Val Lys  
140 145 150

Tyr Gln Gly Pro Arg Asp Phe Gln Thr Leu Glu Asn Trp Met Leu  
155 160 165

Gln Thr Leu Asn Glu Glu Pro Val Thr Pro Glu Pro Glu Val Glu  
170 175 180

Pro Pro Ser Ala Pro Glu Leu Lys Gln Gly Leu Tyr Glu Leu Ser  
185 190 195

Ala Ser Asn Phe Glu Leu His Val Ala Gln Gly Asp His Phe Ile  
200 205 210

Lys Phe Phe Ala Pro Trp Cys Gly His Cys Lys Ala Leu Ala Pro  
215 220 225

Thr Trp Glu Gln Leu Ala Leu Gly Leu Glu His Ser Glu Thr Val  
230 235 240

Lys Ile Gly Lys Val Asp Cys Thr Gln His Tyr Glu Leu Cys Ser  
245 250 255

Gly Asn Gln Val Arg Gly Tyr Pro Thr Leu Leu Trp Phe Arg Asp  
260 265 270

Gly Lys Lys Val Asp Gln Tyr Lys Gly Lys Arg Asp Leu Glu Ser  
275 280 285

Leu Arg Glu Tyr Val Glu Ser Gln Leu Gln Arg Thr Glu Thr Gly  
290 295 300

Ala Thr Glu Thr Val Thr Pro Ser Glu Ala Pro Val Leu Ala Ala  
305 310 315

Glu Pro Glu Ala Asp Lys Gly Thr Val Leu Ala Leu Thr Glu Asn  
320 325 330

Asn Phe Asp Asp Thr Ile Ala Glu Gly Ile Thr Phe Ile Lys Phe  
335 340 345

Tyr Ala Pro Trp Cys Gly His Cys Lys Thr Leu Ala Pro Thr Trp  
350 355 360

Glu Glu Leu Ser Lys Lys Glu Phe Pro Gly Leu Ala Gly Val Lys  
365 370 375

Ile Ala Glu Val Asp Cys Thr Ala Glu Arg Asn Ile Cys Ser Lys  
380 385 390

Tyr Ser Val Arg Gly Tyr Pro Thr Leu Leu Leu Phe Arg Gly Gly  
395 400 405

Lys Lys Val Ser Glu His Ser Gly Gly Arg Asp Leu Asp Ser Leu  
410 415 420

His Arg Phe Val Leu Ser Gln Ala Lys Asp Glu Leu  
425 430

<210> 91

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 91

atgttcttcg cgccctggtg 20

<210> 92

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 92

ccaagccaac acactctaca g 21

<210> 93  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 93  
aagtggtcgc cttgtgcaac gtgc 24

<210> 94  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 94  
ggtcaaaggg gatatatcgc cac 23

<210> 95  
<211> 49  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 95  
gcatggaaga tgccaaagtc tatgtggcta aagtggactg cacggccca 49

<210> 96  
<211> 1016  
<212> DNA  
<213> Homo sapiens

<400> 96  
ctttctgag gaaccacagc aatgaatggc tttgcatcct tgcttcgaag 50

aaaccaattt atcctcctgg tactatttct tttgcaaatt cagagtctgg 100

gtctggatat tgatagccgt cctaccgctg aagtctgtgc cacacacaca 150

atccaccag gacccaaagg agatgatggt gaaaaaggag atccaggaga 200  
agagggaaag catggcaaag tgggacgcat ggggccgaaa ggaattaaag 250  
gagaactggg tgatatggga gatcagggca atattggcaa gactgggccc 300  
attgggaaga agggtgacaa aggggaaaaa ggtttgcttg gaatacctgg 350  
agaaaaaggc aaagcaggta ctgtctgtga ttgtggaaga taccggaat 400  
ttgttgaca actggaatatt agtattgctc ggctcaagac atctatgaag 450  
ttgtcaaga atgtgatagc agggattagg gaaactgaag agaaattcta 500  
ctacatctg caggaagaga agaactacag ggaatcccta acccactgca 550  
ggattcgggg tggaatgcta gccatgccca aggatgaagc tgccaacaca 600  
ctcatcctg actatgttc caagagtggc ttttcggg tgttcattgg 650  
cgtgaatgac ctgaaaggg agggacagta catgtccaca gacaacactc 700  
cactgcagaa ctatagcaac tggaatgagg gggaaccag cgaccctat 750  
ggatcatgagg actgtgtgga gatgctgagc tctggcagat ggaatgacac 800  
agagtgccat ctaccatgt actttgtctg tgagttcatc aagaagaaaa 850  
agtaactcc ctcatctac gtatttgcta ttttctgtg accgtcatta 900  
cagttattgt tatccatcct tttttcctg attgtactac attgatctg 950  
agtcaacata gctagaaaat gctaaactga ggtatggagc ctccatcatc 1000  
aaaaaaaaa aaaaaa 1016

<210> 97

<211> 277

<212> PRT

<213> Homo sapiens

<400> 97

Met Asn Gly Phe Ala Ser Leu Leu Arg Arg Asn Gln Phe Ile Leu

1

5

10

15

Leu Val Leu Phe Leu Leu Gln Ile Gln Ser Leu Gly Leu Asp Ile  
20 25 30

Asp Ser Arg Pro Thr Ala Glu Val Cys Ala Thr His Thr Ile Ser  
35 40 45

Pro Gly Pro Lys Gly Asp Asp Gly Glu Lys Gly Asp Pro Gly Glu  
50 55 60

Glu Gly Lys His Gly Lys Val Gly Arg Met Gly Pro Lys Gly Ile  
65 70 75

Lys Gly Glu Leu Gly Asp Met Gly Asp Gln Gly Asn Ile Gly Lys  
80 85 90

Thr Gly Pro Ile Gly Lys Lys Gly Asp Lys Gly Glu Lys Gly Leu  
95 100 105

Leu Gly Ile Pro Gly Glu Lys Gly Lys Ala Gly Thr Val Cys Asp  
110 115 120

Cys Gly Arg Tyr Arg Lys Phe Val Gly Gln Leu Asp Ile Ser Ile  
125 130 135

Ala Arg Leu Lys Thr Ser Met Lys Phe Val Lys Asn Val Ile Ala  
140 145 150

Gly Ile Arg Glu Thr Glu Glu Lys Phe Tyr Tyr Ile Val Gln Glu  
155 160 165

Glu Lys Asn Tyr Arg Glu Ser Leu Thr His Cys Arg Ile Arg Gly  
170 175 180

Gly Met Leu Ala Met Pro Lys Asp Glu Ala Ala Asn Thr Leu Ile  
185 190 195

Ala Asp Tyr Val Ala Lys Ser Gly Phe Phe Arg Val Phe Ile Gly  
200 205 210

Val Asn Asp Leu Glu Arg Glu Gly Gln Tyr Met Ser Thr Asp Asn  
215 220 225

Thr Pro Leu Gln Asn Tyr Ser Asn Trp Asn Glu Gly Glu Pro Ser  
230 235 240



Asp Pro Tyr Gly His Glu Asp Cys Val Glu Met Leu Ser Ser Gly  
245 250 255

Arg Trp Asn Asp Thr Glu Cys His Leu Thr Met Tyr Phe Val Cys  
260 265 270

Glu Phe Ile Lys Lys Lys Lys  
275

<210> 98

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 98

cgctgactat gttgccaaga gtgg 24

<210> 99

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 99

gatgatggag gctccatacc tcag 24

<210> 100

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 100

gtgttcattg gcgtgaatga ccttgaaagg gagggacagt acatgttcac 50

<210> 101

<211> 2574

<212> DNA

<213> Homo sapiens

<400> 101

ggttctatcg attcgaattc ggccacactg gccggatcct ctagagatcc 50  
ctcgacctcg acccacgcgt ccgctgctct ccgccctgt ggagtggg 100  
gggcctgggt gggaatgggc gtgtgccagc gcacgcgcgc tcctggaag 150  
gagaagtctc agctagaacg agcggcccta ggtttcggga agggaggatc 200  
agggatgttt gcgagcggct ggaaccagac ggtgccgata gaggaagcgg 250  
gctccatggc tgcctcctg ctgctgccc tgctgctgtt gctaccgctg 300  
ctgctgctga agctacacct ctggccgag ttgcgctggc ttccggcgga 350  
cttggccttt gcggtgcgag ctctgtgctg caaaaggct cttcagctc 400  
gcccctggc cgcggctgcc gccgaccgg aaggtcccga ggggggctgc 450  
agcctggcct ggcgcctcgc ggaactggcc cagcagcgcg ccgcgcacac 500  
cttttcatt cacggctcgc ggcgcttag ctactcagag gcggagcgcg 550  
agagtaacag ggctgcacgc gccttctac gtgcgctagg ctgggactgg 600  
ggaccgacg gcggcgacag cggcgagggg agcgctggag aaggcgagcg 650  
ggcagcgccg ggagccggag atgcagcggc cggaagcggc gcggagtgtg 700  
ccggagggga cggtgccgcc agaggtggag gagccgccgc ccctctgtca 750  
cctggagcaa ctgtggcgt gctcctccc gctggcccag agtttctgtg 800  
gctctggttc gggtggcca aggccggcct gcgcactgcc tttgtgcca 850  
ccgccctgcg ccggggcccc ctgctgact gcctccgag ctgcggcgcg 900  
cgcgcgctgg tctgggcc agagtttctg gattccctgg agccggacct 950  
gcccgcctg agagccatgg ggctccacct gtgggctgca ggcccaggaa 1000  
cccaccctgc tggaattagc gatttctgg ctgaagtgtc cgctgaagtg 1050

gatgggcccag tgccaggata cctctcttcc ccccagagca taacagacac 1100  
gtgcctgtac atcttcacct ctggcaccac gggcctcccc aaggctgctc 1150  
ggatcagtca tctgaagatc ctgcaatgcc agggcttcta tcagctgtgt 1200  
ggtgtccacc aggaagatgt gatctacctc gccctcccac tctaccacat 1250  
gtccggttcc ctgctgggca tcgtgggctg catgggcatt ggggccacag 1300  
tgggtctgaa atccaagttc tcggctggtc agttctggga agattgccag 1350  
cagcacaggg tgacggtgtt ccagtacatt ggggagctgt gccgatact 1400  
tgcaaccag cccccgagca aggcagaacg tggccataag gtccggctgg 1450  
cagtgggcag cgggctgcgc ccagatact gggagcgttt tgtgcggcgc 1500  
ttcgggcccc tgcagtgct ggagacatat ggactgacag agggcaact 1550  
ggccaccatc aactacacag gacagcgggg cgctgtgggg cgtgcttct 1600  
ggctttaca gcatatctc ccttctctt tgattcgcta tgatgcacc 1650  
acaggagagc caattcggga ccccagggg cactgtatgg ccacatctc 1700  
aggtgagcca gggctgtgg tggccccggt aagccagcag tccccattc 1750  
tgggctatgc tggcgggcca gagctggccc aggggaagtt gctaaaggat 1800  
gtcttccggc ctggggatgt tttctcaac actggggacc tgctggtctg 1850  
cgatgaccaa ggtttctcc gcttccatga tcgtactgga gacacctca 1900  
ggtggaaggg ggagaatgtg gccacaaccg aggtggcaga ggtcttcgag 1950  
gccctagatt ttctcagga ggtgaacgtc tatggagtca ctgtgccagg 2000  
gcatgaaggc agggctggaa tggcagccct agttctgcgt cccccacg 2050  
ctttggacct tatgcagctc tacaccacg tgtctgagaa cttgccacct 2100  
tatgcccggc cccgattct caggtccag gagtctttgg ccaccacaga 2150  
gacctcaaa cagcagaaag ttcggatggc aatgagggc ttcgaccca 2200

gcacctgtc tgaccactg tacgttctgg accaggctgt aggtgcctac 2250  
 ctgcccctca caactgcccg gtacagcgcc ctctggcag gaaaccttcg 2300  
 aatctgagaa ctccacacc tgaggcacct gagagaggaa ctctgtgggg 2350  
 tgggggccgt tgcaggtgta ctgggctgtc agggatcttt tctataccag 2400  
 aactgcggtc actatthtgt aataaatgig gctggagctg atccagctgt 2450  
 ctctgaccta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaag ggcggccgcg 2500  
 actctagagt cgacctgcag tagggataac agggtaataa gcttggccgc 2550  
 catggcccaa cttgtttatt gcag 2574

<210> 102  
 <211> 730  
 <212> PRT  
 <213> Homo sapiens

<400> 102  
 Met Gly Val Cys Gln Arg Thr Arg Ala Pro Trp Lys Glu Lys Ser  
 1 5 10 15  
 Gln Leu Glu Arg Ala Ala Leu Gly Phe Arg Lys Gly Gly Ser Gly  
 20 25 30  
 Met Phe Ala Ser Gly Trp Asn Gln Thr Val Pro Ile Glu Glu Ala  
 35 40 45  
 Gly Ser Met Ala Ala Leu Leu Leu Leu Pro Leu Leu Leu Leu Leu  
 50 55 60  
 Pro Leu Leu Leu Leu Lys Leu His Leu Trp Pro Gln Leu Arg Trp  
 65 70 75  
 Leu Pro Ala Asp Leu Ala Phe Ala Val Arg Ala Leu Cys Cys Lys  
 80 85 90  
 Arg Ala Leu Arg Ala Arg Ala Leu Ala Ala Ala Ala Asp Pro  
 95 100 105  
 Glu Gly Pro Glu Gly Gly Cys Ser Leu Ala Trp Arg Leu Ala Glu  
 110 115 120

Leu Ala Gln Gln Arg Ala Ala His Thr Phe Leu Ile His Gly Ser  
125 130 135

Arg Arg Phe Ser Tyr Ser Glu Ala Glu Arg Glu Ser Asn Arg Ala  
140 145 150

Ala Arg Ala Phe Leu Arg Ala Leu Gly Trp Asp Trp Gly Pro Asp  
155 160 165

Gly Gly Asp Ser Gly Glu Gly Ser Ala Gly Glu Gly Glu Arg Ala  
170 175 180

Ala Pro Gly Ala Gly Asp Ala Ala Ala Gly Ser Gly Ala Glu Phe  
185 190 195

Ala Gly Gly Asp Gly Ala Ala Arg Gly Gly Gly Ala Ala Ala Pro  
200 205 210

Leu Ser Pro Gly Ala Thr Val Ala Leu Leu Leu Pro Ala Gly Pro  
215 220 225

Glu Phe Leu Trp Leu Trp Phe Gly Leu Ala Lys Ala Gly Leu Arg  
230 235 240

Thr Ala Phe Val Pro Thr Ala Leu Arg Arg Gly Pro Leu Leu His  
245 250 255

Cys Leu Arg Ser Cys Gly Ala Arg Ala Leu Val Leu Ala Pro Glu  
260 265 270

Phe Leu Glu Ser Leu Glu Pro Asp Leu Pro Ala Leu Arg Ala Met  
275 280 285

Gly Leu His Leu Trp Ala Ala Gly Pro Gly Thr His Pro Ala Gly  
290 295 300

Ile Ser Asp Leu Leu Ala Glu Val Ser Ala Glu Val Asp Gly Pro  
305 310 315

Val Pro Gly Tyr Leu Ser Ser Pro Gln Ser Ile Thr Asp Thr Cys  
320 325 330

Leu Tyr Ile Phe Thr Ser Gly Thr Thr Gly Leu Pro Lys Ala Ala  
335 340 345

Arg Ile Ser His Leu Lys Ile Leu Gln Cys Gln Gly Phe Tyr Gln  
350 355 360

Leu Cys Gly Val His Gln Glu Asp Val Ile Tyr Leu Ala Leu Pro  
365 370 375

Leu Tyr His Met Ser Gly Ser Leu Leu Gly Ile Val Gly Cys Met  
380 385 390

Gly Ile Gly Ala Thr Val Val Leu Lys Ser Lys Phe Ser Ala Gly  
395 400 405

Gln Phe Trp Glu Asp Cys Gln Gln His Arg Val Thr Val Phe Gln  
410 415 420

Tyr Ile Gly Glu Leu Cys Arg Tyr Leu Val Asn Gln Pro Pro Ser  
425 430 435

Lys Ala Glu Arg Gly His Lys Val Arg Leu Ala Val Gly Ser Gly  
440 445 450

Leu Arg Pro Asp Thr Trp Glu Arg Phe Val Arg Arg Phe Gly Pro  
455 460 465

Leu Gln Val Leu Glu Thr Tyr Gly Leu Thr Glu Gly Asn Val Ala  
470 475 480

Thr Ile Asn Tyr Thr Gly Gln Arg Gly Ala Val Gly Arg Ala Ser  
485 490 495

Trp Leu Tyr Lys His Ile Phe Pro Phe Ser Leu Ile Arg Tyr Asp  
500 505 510

Val Thr Thr Gly Glu Pro Ile Arg Asp Pro Gln Gly His Cys Met  
515 520 525

Ala Thr Ser Pro Gly Glu Pro Gly Leu Leu Val Ala Pro Val Ser  
530 535 540

Gln Gln Ser Pro Phe Leu Gly Tyr Ala Gly Gly Pro Glu Leu Ala  
545 550 555

Gln Gly Lys Leu Leu Lys Asp Val Phe Arg Pro Gly Asp Val Phe  
560 565 570

Phe Asn Thr Gly Asp Leu Leu Val Cys Asp Asp Gln Gly Phe Leu  
575 580 585

Arg Phe His Asp Arg Thr Gly Asp Thr Phe Arg Trp Lys Gly Glu  
590 595 600

Asn Val Ala Thr Thr Glu Val Ala Glu Val Phe Glu Ala Leu Asp  
605 610 615

Phe Leu Gln Glu Val Asn Val Tyr Gly Val Thr Val Pro Gly His  
620 625 630

Glu Gly Arg Ala Gly Met Ala Ala Leu Val Leu Arg Pro Pro His  
635 640 645

Ala Leu Asp Leu Met Gln Leu Tyr Thr His Val Ser Glu Asn Leu  
650 655 660

Pro Pro Tyr Ala Arg Pro Arg Phe Leu Arg Leu Gln Glu Ser Leu  
665 670 675

Ala Thr Thr Glu Thr Phe Lys Gln Gln Lys Val Arg Met Ala Asn  
680 685 690

Glu Gly Phe Asp Pro Ser Thr Leu Ser Asp Pro Leu Tyr Val Leu  
695 700 705

Asp Gln Ala Val Gly Ala Tyr Leu Pro Leu Thr Thr Ala Arg Tyr  
710 715 720

Ser Ala Leu Leu Ala Gly Asn Leu Arg Ile  
725 730

<210> 103

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 103

gagagccatg gggctccacc tg 22

<210> 104

<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 104  
ggagaatgtg gccacaac 18

<210> 105  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 105  
gccctggcac agtgactcca tagacg 26

<210> 106  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 106  
atccactca gcggacac 18

<210> 107  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 107  
ccagtgccag gatacctctc ttccccccag agcataacag acacg 45

<210> 108  
<211> 2579



<212> DNA

<213> Homo sapiens

<400> 108

cctgtgtaa gctgaggttt ccctagatc tcgtatatcc ccaacacata 50  
cctccacgca cacacatccc caagaacctc gagctcacac caacagacac 100  
acgcgcgcat acacactcgc tctcgttgt ccattccct cccgggggag 150  
ccggcgcgcg ctcccacctt tgccgcacac tccggcgagc cgagcccgca 200  
gcgctccagg attctcggc tcggaactc gattgcagct ctgaaccccc 250  
atggtggtt ttaaactc tcttctctt ctctctctg tttgattgc 300  
accgttcca tctgggggct agaggagcaa ggcagcagcc tcccagcca 350  
gccctgttg gcttgccatc gtccatctgg ctataaaag tttgctgagc 400  
gcagtccaga gggctgcgct gctcgtcccc tcggctggca gaagggggtg 450  
acgtgggca gcggcgagga gcgcgccgct gcctctggcg ggctttcggc 500  
ttgaggggca aggtgaagag cgcaccggcc gtggggttta ccgagctgga 550  
ttgtatgtt gcaccatgcc ttcttgatc ggggctgtga ttctccct 600  
cttggggctg ctgctctccc tccccgccg ggcggatgtg aaggctcgga 650  
gtgcggaga ggtccgccag gcgtacggtg ccaagggatt cagcctggcg 700  
gacatcccct accaggagat cgcaggggaa cacttaagaa tctgtctca 750  
ggaatataca tgctgcacca cagaaatgga agacaagta agccaacaaa 800  
gcaaactga attgaaaac ctgtggaag agacaagcca tttgtgcgc 850  
accactttg tgtccaggca taagaaatt gacgaattt tccgagagct 900  
cctggagaat gcagaaaagt cactaaatga tatgtttgta cggacctatg 950  
gcatgctgta catgcagaat tcagaagtct tccaggacct cttcacagag 1000  
ctgaaaaggt actacactgg gggtaatgtg aatctggagg aatgctcaa 1050

tgacttttgg gctcggctcc tggaacggat gtttcagctg ataaaccctc 1100  
agtatacatt cagtgaagac tacctggaat gtgtgagcaa atacactgac 1150  
cagctcaage catttggaga cgtgccccgg aaactgaaga ttcaggttac 1200  
ccgcgccttc attgctgcca ggaccttgt ccaggggctg actgtgggca 1250  
gagaagtgc aaaccgagtt tccaaggtca gccaacccc aggtgtatc 1300  
cgtgcctca tgaagatgct gtactgcca tactgtcggg ggcttcccac 1350  
tgtgaggccc tgcaacaact actgtctcaa cgatcatgaag ggctgcttgg 1400  
caaatcaggc tgacctgac acagagtga atctgtttat agatgcaatg 1450  
ctcttggtgg cagagcgact ggaggggcca ttcaacattg agtcggtcat 1500  
ggaccgata gatgcaaga ttctgaagc cattatgaac atgcaagaaa 1550  
acagcatgca ggtgtctgca aaggtcttcc agggatgtgg tcagcccaa 1600  
cctgctccag cctcagatc tgcccgtca gctcctgaaa attttaatac 1650  
acgtttcagg ccctacaatc ctgaggaaag accaacaact gctgcaggca 1700  
caagcttga cggctggtc acagacataa aagagaaatt gaagctctct 1750  
aaaaaggctt ggtcagcatt accctacact atctgcaagg acgagagcgt 1800  
gacagcgggc acgtccaacg aggaggaatg ctggaacggg cacagcaaag 1850  
ccagatactt gcctgagatc atgaatgatg ggctcacca ccagatcaac 1900  
aatcccaggg tggatgtgga catcactcgg cctgacactt tcatcagaca 1950  
gcagattatg gctctccgtg tgatgaccaa caaactaaa aacgcctaca 2000  
atggcaatga tgcaatttc caggacaaa gtgatgaatc cagtggctca 2050  
gggagtggca gtgggtgcat ggatgacgtg tgtcccacgg agtttgattt 2100  
gtcaccaca gaggcccccg cagtggatcc cgaccggaga gaggtggact 2150  
cttctgcage ccagcgtggc cactccctgc tctctggtc tctcacctgc 2200

attgtcctgg cactgcagag actgtgcaga taatcttggg ttttggca 2250

gatgaaactg catttagct atctgaatgg ccaactcact tctttctta 2300

cactcttggg caatggacca tgccacaaaa acttaccgtt ttctatgaga 2350

agagagcagt aatgcaatct gcctcccttt ttgtttccc aaagagtacc 2400

gggtgccaga ctgaactgct tctctttcc ttcagctatc tgtggggacc 2450

ttgtttatc tagagagaat tcttactcaa attttcgta ccaggagatt 2500

ttctacctt catttgcttt tatgctgcag aagtaaagga atctcacgtt 2550

gtgagggttt ttttttctc atttaaaat 2579

<210> 109

<211> 555

<212> PRT

<213> Homo sapiens

<400> 109

Met Pro Ser Trp Ile Gly Ala Val Ile Leu Pro Leu Leu Gly Leu  
1 5 10 15

Leu Leu Ser Leu Pro Ala Gly Ala Asp Val Lys Ala Arg Ser Cys  
20 25 30

Gly Glu Val Arg Gln Ala Tyr Gly Ala Lys Gly Phe Ser Leu Ala  
35 40 45

Asp Ile Pro Tyr Gln Glu Ile Ala Gly Glu His Leu Arg Ile Cys  
50 55 60

Pro Gln Glu Tyr Thr Cys Cys Thr Thr Glu Met Glu Asp Lys Leu  
65 70 75

Ser Gln Gln Ser Lys Leu Glu Phe Glu Asn Leu Val Glu Glu Thr  
80 85 90

Ser His Phe Val Arg Thr Thr Phe Val Ser Arg His Lys Lys Phe  
95 100 105

Asp Glu Phe Phe Arg Glu Leu Leu Glu Asn Ala Glu Lys Ser Leu  
110 115 120

Asn Asp Met Phe Val Arg Thr Tyr Gly Met Leu Tyr Met Gln Asn  
125 130 135

Ser Glu Val Phe Gln Asp Leu Phe Thr Glu Leu Lys Arg Tyr Tyr  
140 145 150

Thr Gly Gly Asn Val Asn Leu Glu Glu Met Leu Asn Asp Phe Trp  
155 160 165

Ala Arg Leu Leu Glu Arg Met Phe Gln Leu Ile Asn Pro Gln Tyr  
170 175 180

His Phe Ser Glu Asp Tyr Leu Glu Cys Val Ser Lys Tyr Thr Asp  
185 190 195

Gln Leu Lys Pro Phe Gly Asp Val Pro Arg Lys Leu Lys Ile Gln  
200 205 210

Val Thr Arg Ala Phe Ile Ala Ala Arg Thr Phe Val Gln Gly Leu  
215 220 225

Thr Val Gly Arg Glu Val Ala Asn Arg Val Ser Lys Val Ser Pro  
230 235 240

Thr Pro Gly Cys Ile Arg Ala Leu Met Lys Met Leu Tyr Cys Pro  
245 250 255

Tyr Cys Arg Gly Leu Pro Thr Val Arg Pro Cys Asn Asn Tyr Cys  
260 265 270

Leu Asn Val Met Lys Gly Cys Leu Ala Asn Gln Ala Asp Leu Asp  
275 280 285

Thr Glu Trp Asn Leu Phe Ile Asp Ala Met Leu Leu Val Ala Glu  
290 295 300

Arg Leu Glu Gly Pro Phe Asn Ile Glu Ser Val Met Asp Pro Ile  
305 310 315

Asp Val Lys Ile Ser Glu Ala Ile Met Asn Met Gln Glu Asn Ser  
320 325 330

Met Gln Val Ser Ala Lys Val Phe Gln Gly Cys Gly Gln Pro Lys  
335 340 345

Pro Ala Pro Ala Leu Arg Ser Ala Arg Ser Ala Pro Glu Asn Phe  
350 355 360

Asn Thr Arg Phe Arg Pro Tyr Asn Pro Glu Glu Arg Pro Thr Thr  
365 370 375

Ala Ala Gly Thr Ser Leu Asp Arg Leu Val Thr Asp Ile Lys Glu  
380 385 390

Lys Leu Lys Leu Ser Lys Lys Val Trp Ser Ala Leu Pro Tyr Thr  
395 400 405

Ile Cys Lys Asp Glu Ser Val Thr Ala Gly Thr Ser Asn Glu Glu  
410 415 420

Glu Cys Trp Asn Gly His Ser Lys Ala Arg Tyr Leu Pro Glu Ile  
425 430 435

Met Asn Asp Gly Leu Thr Asn Gln Ile Asn Asn Pro Glu Val Asp  
440 445 450

Val Asp Ile Thr Arg Pro Asp Thr Phe Ile Arg Gln Gln Ile Met  
455 460 465

Ala Leu Arg Val Met Thr Asn Lys Leu Lys Asn Ala Tyr Asn Gly  
470 475 480

Asn Asp Val Asn Phe Gln Asp Thr Ser Asp Glu Ser Ser Gly Ser  
485 490 495

Gly Ser Gly Ser Gly Cys Met Asp Asp Val Cys Pro Thr Glu Phe  
500 505 510

Glu Phe Val Thr Thr Glu Ala Pro Ala Val Asp Pro Asp Arg Arg  
515 520 525

Glu Val Asp Ser Ser Ala Ala Gln Arg Gly His Ser Leu Leu Ser  
530 535 540

Trp Ser Leu Thr Cys Ile Val Leu Ala Leu Gln Arg Leu Cys Arg  
545 550 555

<210> 110

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 110

aagcgtgaca gcgggcacgt c 21

<210> 111

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 111

tgcacagtct ctgcagtgcc cagg 24

<210> 112

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 112

gaatgctgga acgggcacag caaagccaga tacttgcctg 40

<210> 113

<211> 4649

<212> DNA

<213> Homo sapiens

<400> 113

cggacgcgtg ggcggacgcg tgggcaaaag aactcggagt gccaaagcta 50

aataagttag ctgagaaaac gcacgcagtt tgcagcgctt gcgccgggtg 100

cgccaactac gcaaagacca agcgggctcc gcgcggaccg gccgcggggc 150

tagggaccgg gctttggcct tcaggctccc tagcagcggg gaaaaggaat 200

tgctgcccgg agtttctgcg gaggtggagg gagatcagga aacggcttct 250

tctcacttc gccgcctggt gagtgtcggg gagattggca aacgcctagg 300  
aaaggactgg ggaaaatagc cctgggaaag tggagaaggt gatcaggagg 350  
ccggtccact acggcagttt atctgtctga tcagagccag acgcgacgcg 400  
tccacttgc agttctttcc aggtgtgggg accgcaggac agacggccga 450  
tcccgcccc ctccgtacca gcactcccag gagagtcage ctgctcccc 500  
aacgtcgagg gcgctctggc cacgaaaagt tctgtccac tgtgatttc 550  
aatccttgc ttggttttt tctccagaga acttttgggt ggagatatta 600  
actttttct tttttttt ccttgggtga agctgctta gggagggggg 650  
aggaggagga gaaagtgaaa tgtgctggag aagagcgagc cctccttgt 700  
ctccggagt cccatccatt aagccatcac ttctggaaga ttaaagttg 750  
cggacatggt gacagctgag aggagaggag gatttcttc caggtggaga 800  
gtcttcaccg tctgttgggt gcatgtgtc gcccgacgcg gcgcggggcg 850  
cgtggttctc cgcgtggagt ctacctggg acctgagtga atggctcca 900  
ggggctgtc ggggcatccg cctccgcctt ctccacagc ctgtgtctgt 950  
cctggaaaga tgctagcaat gggggcgctg gcaggattct ggatcctctg 1000  
cctcctact tatggttacc tgcctgggg ccaggcctta gaagaggagg 1050  
aagaaggggc ctactagct caagctggag agaaactaga gccacgaca 1100  
actccacct cccagccca tctcatttc atcctagcgg atgatcaggg 1150  
atitagat gtgggttacc acggatctga gattaaaca cctactctt 1200  
acaagctgc tgccgaagga gtaaaactgg agaactacta tgtccagcct 1250  
attgcacac catccaggag tcagtttatt actggaaagt atcagataca 1300  
caccggactt caacattcta tcataagacc tacccaacc aactgtttac 1350  
ctctggacaa tgccacccta cctcagaaac tgaaggaggt tggatattca 1400

acgcatatgg tcggaaaatg gcacttgggt ttaacagaa aagaatgcat 1450  
gcccaccaga agaggatttg atacctttt tggttccctt ttgggaagtg 1500  
gggattacta tacacactac aaatgtgaca gtctgggat gtgtggctat 1550  
gacttgtatg aaaacgacaa tgctgcctgg gactatgaca atggcatata 1600  
ctccacacag atgtacactc agagagtaca gcaaactta gttcccata 1650  
acccacaaa gcctatattt ttatatactg cctatcaagc tgttcattca 1700  
ccactgcaag ctctggcag gtatttcgaa cactaccgat ccattatcaa 1750  
cataaacagg agaagatatg ctgccatgct ttctgctta gatgaagcaa 1800  
tcaacaacgt gacattggct ctaaagactt atggttcta taacaacagc 1850  
attatcattt actctcaga taatggtggc cagcctacgg caggaggag 1900  
taactggcct ctgagagga gcaaaggaac atattgggaa ggagggatcc 1950  
gggctgtagg ctttgtgcat agcccacttc tgaaaaacaa gggaacagtg 2000  
tgtaaggaac ttgtcacat cactgactgg taccctcact tcatttcaact 2050  
ggctgaagga cagattgatg aggacattca actagatggc tatgatatct 2100  
gggagacat aagtgagggt ctctgctcac cccgagtaga tattttgcat 2150  
aacattgacc cctatacacc aaggcaaaaa atggctcctg ggcagcaggc 2200  
tatgggatct ggaacactgc aatccagtca gccatcagag tgcagcactg 2250  
gaaattgctt acaggaaatc ctggctacag cgactgggtc cccctcagt 2300  
ctttcagcaa cctgggaccg aaccggtggc acaatgaac gatcaccttg 2350  
tcaactggca aaagtgtatg gcttttcaac atcacagccg acccatatga 2400  
gagggtggac ctatctaaca ggtatccagg aatcgtgaag aagctcctac 2450  
ggaggctctc acagttcaac aaaactgcag tgccggtcag gtatcccccc 2500  
aaagacccca gaagtaacce taggctcaat ggaggggtct ggggacatg 2550



gtataaagag gaaaccaaga aaaagaagcc aagcaaaaat caggctgaga 2600  
aaaagcaaaa gaaaagcaaa aaaagaaga agaaacagca gaaagcagtc 2650  
tcaggtaaac cagcaaattt ggctcgataa tatcgctggc ctaagcgtca 2700  
ggcttgttt catgctgtgc cactccagag acttctgcca cctggccgcc 2750  
aactgaaaa ctgtcctgct cagtgccaag gtgctactct tgcaagccac 2800  
acttagagag agtggagatg tttatttctc tcgctccttt agaaaacgtg 2850  
gtgagtccig agtccactg ctgtgctca gtcaactgac caaacactgc 2900  
tttgaattat aggaggagaa caataaccta ccatccgcaa gcatgcta 2950  
ttgatggaag ttacagggta gcatgattaa aactacctt gataaattac 3000  
agtcaaagat tgtgtcacct caaaggcctt gaagaatata tttcttgg 3050  
gaattttgt atgtctgtca tatgacactt gggttttta attaattcta 3100  
ttttatat ataaatat gttcttttc ctgtgaaaag ctgttttct 3150  
cacatgtgaa cagcttgac ctcatcttac catgctgag ggaatggcaa 3200  
ataagaatgt ttgagcacac tgcccacaat gaatgtaact atttctaaa 3250  
cacttacta gaagaacatt tcagtataaa aaacctaatt tatttttaca 3300  
gaaaaatatt ttgtgtttt tataaaaagt tatgcaaatg acttttatt 3350  
ttattcctg catacatta gaagaattt attcattc tcaaattat 3400  
caagcactgt aactataa attaatgtaa tactgtgtga atcagacta 3450  
taaaaaacat cattcagaaa actttataat cgtcattgtt caatcaagat 3500  
tttgaatgta ataagatgaa tatattcctt acaaattact tggaaattca 3550  
atgtttgtgc agagttgaga caactttatt gttctatca taaactatt 3600  
atgtactta attattaana tgattactt tatggcacta gaaaattac 3650  
tgtggcttt ctgatctaac ttctagctaa aattgtatca ttggctctaa 3700

aaaataaaaa tctttactaa taggcaattg aaggaatggt ttgctaaca 3750  
ccacagtaat ataatatgat ttacagata gatgcttccc cttggctatg 3800  
acatggagaa agattttccc ataataataa ctaatattha tattaggtg 3850  
gtgcaaaact agttgcggtt ttcccatta aaagtaataa ccttactctt 3900  
atacaaagtg gacactgtgg ggagatacag agaaatggaa gatacggatc 3950  
ctgcctggag taggtaacct tgcttgaaa ccccatgc aaacgtcatg 4000  
aggagaatta aaggagtatt atcagtaatg aagttatca tgggtcatca 4050  
atgagcatag attggtgtgg atcctgtaga ccctggtgtt ttcttgaag 4100  
tgccctctcc taatgcagag gccttgaagc ttacagtata cactgaaaa 4150  
gtcacagata gctagaatta tgatcttga agttataact gtgatctgaa 4200  
aatgtgtgtg gtggtatgac agcataccat taaatacatt tacatcacag 4250  
ctcaaaggac tggatataa tccattata tcacaactca aaggactgtg 4300  
atataatcca tttatatcac agctcacagt ttctgaaaat gtataaaaga 4350  
atctataatc tagtactgaa attactaat tgggtaagat gatttaaatg 4400  
attttaattt taacatttta ttctagaat atatgctcc attttattt 4450  
atagtgtaaa gttgtattc ctaaagttg tgtttgtcg acagtatctt 4500  
ttaatgagt cttaaaaaa aaggcatatt gttcatgtt aaaaaaaaaa 4550  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 4600  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 4649

<210> 114  
<211> 515  
<212> PRT  
<213> Homo sapiens

<400> 114  
Met Ala Pro Arg Gly Cys Ala Gly His Pro Pro Pro Pro Ser Pro

1            5            10            15

Gln Ala Cys Val Cys Pro Gly Lys Met Leu Ala Met Gly Ala Leu  
20                    25                    30

Ala Gly Phe Trp Ile Leu Cys Leu Leu Thr Tyr Gly Tyr Leu Ser  
35                    40                    45

Trp Gly Gln Ala Leu Glu Glu Glu Glu Gly Ala Leu Leu Ala  
50                    55                    60

Gln Ala Gly Glu Lys Leu Glu Pro Ser Thr Thr Ser Thr Ser Gln  
65                    70                    75

Pro His Leu Ile Phe Ile Leu Ala Asp Asp Gln Gly Phe Arg Asp  
80                    85                    90

Val Gly Tyr His Gly Ser Glu Ile Lys Thr Pro Thr Leu Asp Lys  
95                    100                    105

Leu Ala Ala Glu Gly Val Lys Leu Glu Asn Tyr Tyr Val Gln Pro  
110                    115                    120

Ile Cys Thr Pro Ser Arg Ser Gln Phe Ile Thr Gly Lys Tyr Gln  
125                    130                    135

Ile His Thr Gly Leu Gln His Ser Ile Ile Arg Pro Thr Gln Pro  
140                    145                    150

Asn Cys Leu Pro Leu Asp Asn Ala Thr Leu Pro Gln Lys Leu Lys  
155                    160                    165

Glu Val Gly Tyr Ser Thr His Met Val Gly Lys Trp His Leu Gly  
170                    175                    180

Phe Asn Arg Lys Glu Cys Met Pro Thr Arg Arg Gly Phe Asp Thr  
185                    190                    195

Phe Phe Gly Ser Leu Leu Gly Ser Gly Asp Tyr Tyr Thr His Tyr  
200                    205                    210

Lys Cys Asp Ser Pro Gly Met Cys Gly Tyr Asp Leu Tyr Glu Asn  
215                    220                    225

Asp Asn Ala Ala Trp Asp Tyr Asp Asn Gly Ile Tyr Ser Thr Gln

230            235            240

Met Tyr Thr Gln Arg Val Gln Gln Ile Leu Ala Ser His Asn Pro  
245            250            255

Thr Lys Pro Ile Phe Leu Tyr Thr Ala Tyr Gln Ala Val His Ser  
260            265            270

Pro Leu Gln Ala Pro Gly Arg Tyr Phe Glu His Tyr Arg Ser Ile  
275            280            285

Ile Asn Ile Asn Arg Arg Arg Tyr Ala Ala Met Leu Ser Cys Leu  
290            295            300

Asp Glu Ala Ile Asn Asn Val Thr Leu Ala Leu Lys Thr Tyr Gly  
305            310            315

Phe Tyr Asn Asn Ser Ile Ile Ile Tyr Ser Ser Asp Asn Gly Gly  
320            325            330

Gln Pro Thr Ala Gly Gly Ser Asn Trp Pro Leu Arg Gly Ser Lys  
335            340            345

Gly Thr Tyr Trp Glu Gly Gly Ile Arg Ala Val Gly Phe Val His  
350            355            360

Ser Pro Leu Leu Lys Asn Lys Gly Thr Val Cys Lys Glu Leu Val  
365            370            375

His Ile Thr Asp Trp Tyr Pro Thr Leu Ile Ser Leu Ala Glu Gly  
380            385            390

Gln Ile Asp Glu Asp Ile Gln Leu Asp Gly Tyr Asp Ile Trp Glu  
395            400            405

Thr Ile Ser Glu Gly Leu Arg Ser Pro Arg Val Asp Ile Leu His  
410            415            420

Asn Ile Asp Pro Tyr Thr Pro Arg Gln Lys Met Ala Pro Gly Gln  
425            430            435

Gln Ala Met Gly Ser Gly Thr Leu Gln Ser Ser Gln Pro Ser Glu  
440            445            450

Cys Ser Thr Gly Asn Cys Leu Gln Glu Ile Leu Ala Thr Ala Thr

455            460            465

Gly Ser Pro Leu Ser Leu Ser Ala Thr Trp Asp Arg Thr Gly Gly  
470            475            480

Thr Met Asn Gly Ser Pro Cys Gln Leu Ala Lys Val Tyr Gly Phe  
485            490            495

Ser Thr Ser Gln Pro Thr His Met Arg Gly Trp Thr Tyr Leu Thr  
500            505            510

Gly Ile Gln Glu Ser  
515

<210> 115

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 115

cccaacccaa ctgtttacct ctgg 24

<210> 116

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 116

ctctctgagt gtacatctgt gtgg 24

<210> 117

<211> 53

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<220>

<221> unsure  
<222> 33  
<223> unknown base

<400> 117  
gccaccctac ctcagaaact gaaggagggt ggntattcaa cgcatatggt 50  
  
cgg 53

<210> 118  
<211> 2260  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 2009, 2026, 2033, 2055, 2074, 2078, 2086  
<223> unknown base

<400> 118  
cggacgcgtg ggtgagtg gagcggagga cccgagcggc tgaggagaga 50  
  
ggaggcggcg gcttagctgc tacgggggtcc ggccggcggc ctcccagggg 100  
  
gggctcagga ggaggaagga ggacccgtgc gagaatgcct ctgccctgga 150  
  
gccttgcgt cccgctgctg ctctcctggg tggcaggtgg ttcgggaac 200  
  
gggccagt caagcatca cgggtgtta gcatcggcac gtcagcctgg 250  
  
ggctgtcac tatggaacta aactggcctg ctgctacggc tggagaagaa 300  
  
acagcaaggg agtctgtgaa gctacatgcg aacctggatg taagtttgg 350  
  
gagtgcgtgg gaccaaaca atgcagatgc tttccaggat acaccgggaa 400  
  
aacctgcagt caagatgtga atgagtgagg aatgaaacc cggccatgcc 450  
  
aacacagatg tgtgaataca cacggaagct acaagtgctt ttgcctcagt 500  
  
ggccacatgc tcatgccaga tgctacgtgt gtgaactcta ggacatgtgc 550  
  
catgataaac tgtcagtaca gctgtgaaga cacagaagaa gggccacagt 600  
  
gcctgtgtcc atcctcagga ctccgcctgg ccccaaatgg aagagactgt 650

ctagatattg atgaatgtgc ctctggtaaa gtcactgtc cctacaatcg 700  
aagatgtgtg aacacatttg gaagctacta ctgcaaatgt cacattgggt 750  
tcgaactgca atatatcagt ggacgatatg actgtataga tataaatgaa 800  
tgtactatgg atagccatac gtgcagccac catgccaatt gcttcaatac 850  
ccaagggtcc ttcaagtga aatgcaagca gggatataaa ggcaatggac 900  
ttcgggttc tgctatcct gaaaattctg tgaaggaagt cctcagagca 950  
cctggtacca tcaaagacag aatcaagaag ttgcttgctc acaaaaacag 1000  
catgaaaaag aaggcaaaaa ttaaaaatgt taccccagaa cccaccagga 1050  
ctctacccc taagtggaac ttgcagccct tcaactatga agagatagtt 1100  
tccagaggcg ggaactctca tggaggtaaa aaagggaatg aagagaaatg 1150  
aaagaggggc ttgaggatga gaaaagagaa gagaaagccc tgaagaatga 1200  
catagaggag cgaagcctgc gaggagatgt gttttcctt aagtgatg 1250  
aagcaggtga attcggcctg attctggctc aaaggaaagc gctaactcc 1300  
aaactggaac ataaagattt aaatatctcg gttgactgca gcttcaatca 1350  
tgggatctgt gactggaac aggatagaga agatgattt gactggaatc 1400  
ctgctgatcg agataatgct attggcttct atatggcagt tccggccttg 1450  
gcaggtcaca agaaagacat tggccgattg aaacttctcc tacctgacct 1500  
gcaaccccaa agcaacttct gtttgcctt tgattaccgg ctggccggag 1550  
acaaagtctg gaaacttca gtgtttgtga aaaacagtaa caatgccctg 1600  
gcatgggaga agaccacgag tgaggatgaa aagtggaaga cagggaaaat 1650  
tcagttgat caaggaactg atgctaccaa aagcatcatt ttgaagcag 1700  
aacgtggcaa gggcaaaacc ggcgaaatcg cagtggatgg cgtcttgctt 1750  
gtttcaggct tatgtccaga tagccttta tctgtgatg actgaatgtt 1800

actatcttta tatttgactt tgatgtcag ttcctggtt ttttgatat 1850

tgcacatag gacctctggc attttagaat tactagctga aaaattgtaa 1900

tgtaccaaca gaaatattat tgtaagatgc ctttcttga taagatatgc 1950

caatatttgc ttaaataatc atatcactgt atcttctcag tcatttctga 2000

atctttcnc attatattat aaaatntgga aangtcagtt tatctcccct 2050

cctcngtata tctgatttgt atangtangt tgatngcctt ctctctacaa 2100

catttctaga aaatagaaaa aaaagcacag agaaatgttt aactgtttga 2150

ctcttatgat acttcttggg aactatgaca tcaaagatag acttttgcct 2200

aagtggctta gctgggtctt tcatagccaa actgtatat ttaattcttt 2250

gtaataataa 2260

<210> 119

<211> 338

<212> PRT

<213> Homo sapiens

<400> 119

Met Pro Leu Pro Trp Ser Leu Ala Leu Pro Leu Leu Leu Ser Trp

1 5 10 15

Val Ala Gly Gly Phe Gly Asn Ala Ala Ser Ala Arg His His Gly

20 25 30

Leu Leu Ala Ser Ala Arg Gln Pro Gly Val Cys His Tyr Gly Thr

35 40 45

Lys Leu Ala Cys Cys Tyr Gly Trp Arg Arg Asn Ser Lys Gly Val

50 55 60

Cys Glu Ala Thr Cys Glu Pro Gly Cys Lys Phe Gly Glu Cys Val

65 70 75

Gly Pro Asn Lys Cys Arg Cys Phe Pro Gly Tyr Thr Gly Lys Thr

80 85 90

Cys Ser Gln Asp Val Asn Glu Cys Gly Met Lys Pro Arg Pro Cys



95                    100                    105

Gln His Arg Cys Val Asn Thr His Gly Ser Tyr Lys Cys Phe Cys  
110                    115                    120

Leu Ser Gly His Met Leu Met Pro Asp Ala Thr Cys Val Asn Ser  
125                    130                    135

Arg Thr Cys Ala Met Ile Asn Cys Gln Tyr Ser Cys Glu Asp Thr  
140                    145                    150

Glu Glu Gly Pro Gln Cys Leu Cys Pro Ser Ser Gly Leu Arg Leu  
155                    160                    165

Ala Pro Asn Gly Arg Asp Cys Leu Asp Ile Asp Glu Cys Ala Ser  
170                    175                    180

Gly Lys Val Ile Cys Pro Tyr Asn Arg Arg Cys Val Asn Thr Phe  
185                    190                    195

Gly Ser Tyr Tyr Cys Lys Cys His Ile Gly Phe Glu Leu Gln Tyr  
200                    205                    210

Ile Ser Gly Arg Tyr Asp Cys Ile Asp Ile Asn Glu Cys Thr Met  
215                    220                    225

Asp Ser His Thr Cys Ser His His Ala Asn Cys Phe Asn Thr Gln  
230                    235                    240

Gly Ser Phe Lys Cys Lys Cys Lys Gln Gly Tyr Lys Gly Asn Gly  
245                    250                    255

Leu Arg Cys Ser Ala Ile Pro Glu Asn Ser Val Lys Glu Val Leu  
260                    265                    270

Arg Ala Pro Gly Thr Ile Lys Asp Arg Ile Lys Lys Leu Leu Ala  
275                    280                    285

His Lys Asn Ser Met Lys Lys Lys Ala Lys Ile Lys Asn Val Thr  
290                    295                    300

Pro Glu Pro Thr Arg Thr Pro Thr Pro Lys Val Asn Leu Gln Pro  
305                    310                    315

Phe Asn Tyr Glu Glu Ile Val Ser Arg Gly Gly Asn Ser His Gly

320

325

330

Gly Lys Lys Gly Asn Glu Glu Lys  
335

<210> 120

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 120

cctcagtggc cacatgctca tg 22

<210> 121

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 121

ggctgcacgt atggctatcc atag 24

<210> 122

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 122

gataaactgt cagtacagct gtgaagacac agaagaaggg ccacagtgcc 50

<210> 123

<211> 1199

<212> DNA

<213> Homo sapiens

<400> 123

gggagctgct gctgtggctg ctggtgctgt gcgcgctgct cctgctcttg 50

gtgcagctgc tgcgcttctt gagggctgac ggcgacctga cgctactatg 100  
ggccgagtgg cagggacgac gcccagaatg ggagctgact gatatggtg 150  
tgtgggtgac tggagcctcg agtgggaattg gtgaggagct ggcttaccag 200  
ttgtctaaac taggagtttc tcttgtgctg tcagccagaa gattgcatga 250  
gctggaaagg gtgaaaagaa gatgcctaga gaatggcaat ttaaagaaa 300  
aagatatact tgtttgccc cttgacctga ccgacctgg ttccatgaa 350  
gctggctacca aagctgttct ccaggagttt ggtagaatcg acattctggt 400  
caacaatggt ggaatgtccc agcgttctct gtgcatggat accagcttgg 450  
atgtctacag aaagctaata gagcttaact acttagggac ggtgtccttg 500  
acaaaatgtg ttctgcctca catgatcgag aggaagcaag gaaagattgt 550  
tactgtgaat agcatcctgg gtatcatac tgtaccttt tccattgat 600  
actgtgctag caagcatgct ctccgggggt ttttaatgg ccttcaaca 650  
gaactgcca cataccagg tataatagtt tctaacatt gccaggacc 700  
tgtgcaatca aatattgtgg agaattcctt agctggagaa gtcacaaaga 750  
ctataggcaa taatggagac cagtcccaca agatgacaac cagtcgttgt 800  
gtgctggctga tgtaatcag catggccaat gattgaaag aagtttggat 850  
ctcagaacaa ctttcttgt tagtaacata tttgtggcaa tacatgcaa 900  
cctgggcctg gtggataacc aacaagatgg ggaagaaaag gattgagaac 950  
tttaagagtg gtgtggatgc agacttctt tatttataa tctttaagac 1000  
aaaacatgac tgaagagc acctgtactt tcaagccac tggagggaga 1050  
aatggaaaac atgaaaacag caatcttctt atgcttctga ataataaag 1100  
actaattgt gatttactt ttaatagat atgactttgc ttccaacatg 1150  
gaaatgaaata aaaaataaat aataaaagat tgccatgaat cttgcaaaa 1199

<210> 124  
<211> 289  
<212> PRT  
<213> Homo sapiens

<400> 124  
Met Val Val Trp Val Thr Gly Ala Ser Ser Gly Ile Gly Glu Glu  
1 5 10 15  
Leu Ala Tyr Gln Leu Ser Lys Leu Gly Val Ser Leu Val Leu Ser  
20 25 30  
Ala Arg Arg Val His Glu Leu Glu Arg Val Lys Arg Arg Cys Leu  
35 40 45  
Glu Asn Gly Asn Leu Lys Glu Lys Asp Ile Leu Val Leu Pro Leu  
50 55 60  
Asp Leu Thr Asp Thr Gly Ser His Glu Ala Ala Thr Lys Ala Val  
65 70 75  
Leu Gln Glu Phe Gly Arg Ile Asp Ile Leu Val Asn Asn Gly Gly  
80 85 90  
Met Ser Gln Arg Ser Leu Cys Met Asp Thr Ser Leu Asp Val Tyr  
95 100 105  
Arg Lys Leu Ile Glu Leu Asn Tyr Leu Gly Thr Val Ser Leu Thr  
110 115 120  
Lys Cys Val Leu Pro His Met Ile Glu Arg Lys Gln Gly Lys Ile  
125 130 135  
Val Thr Val Asn Ser Ile Leu Gly Ile Ile Ser Val Pro Leu Ser  
140 145 150  
Ile Gly Tyr Cys Ala Ser Lys His Ala Leu Arg Gly Phe Phe Asn  
155 160 165  
Gly Leu Arg Thr Glu Leu Ala Thr Tyr Pro Gly Ile Ile Val Ser  
170 175 180  
Asn Ile Cys Pro Gly Pro Val Gln Ser Asn Ile Val Glu Asn Ser  
185 190 195

Leu Ala Gly Glu Val Thr Lys Thr Ile Gly Asn Asn Gly Asp Gln  
200 205 210

Ser His Lys Met Thr Thr Ser Arg Cys Val Arg Leu Met Leu Ile  
215 220 225

Ser Met Ala Asn Asp Leu Lys Glu Val Trp Ile Ser Glu Gln Pro  
230 235 240

Phe Leu Leu Val Thr Tyr Leu Trp Gln Tyr Met Pro Thr Trp Ala  
245 250 255

Trp Trp Ile Thr Asn Lys Met Gly Lys Lys Arg Ile Glu Asn Phe  
260 265 270

Lys Ser Gly Val Asp Ala Asp Ser Ser Tyr Phe Lys Ile Phe Lys  
275 280 285

Thr Lys His Asp

<210> 125

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 125

gcaatgaact gggagctgc 19

<210> 126

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 126

ctgtgaatag catcctggg 19

<210> 127

<211> 20

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 127  
ctttcaagc cactggaggg 20

<210> 128  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 128  
ctgtagacat ccaagctggt atcc 24

<210> 129  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 129  
aagagtctgc atccacacca ctc 23

<210> 130  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 130  
acctgacgt actatgggcc gaggggcagg gacgacgccc agaag 46

<210> 131  
<211> 2365  
<212> DNA

<213> Homo sapiens

<400> 131

gcgacgtggg caccgccatc agctgttcgc gcgtcttctc ctccaggtgg 50  
ggcagggggtt tcgggctggt ggagcatgtg ctgggacagg acagcatcct 100  
caatcaatcc aacagcatat tcggttgcac ttctacaca ctacagctat 150  
tgttaggttg cctgcggaca cgctgggcct ctgtcctgat gctgctgagc 200  
tccttggtgt ctctcgtgg ttctgtctac ctggcctgga tcctgttctt 250  
cgtgctctat gatttctgca ttgttgtat caccacctat gctatcaacg 300  
tgagcctgat gtggctcagt ttccggaagg tccaagaacc ccagggcaag 350  
gctaagaggc actgagccct caaccaagc caggtgacc tcattgctt 400  
tgctttggtc ttaagccgc tcagcgtgcc tgggacagc gtggccccgg 450  
ccccccaag cctcaggagg gcaacacagt ccctggcgag tggccctggc 500  
aggccagtgt gaggaggcaa ggagcccaca tctgcagcgg ctccctggtg 550  
gcagacacct ggtcctcac tgctgcccac tgctttgaaa aggacagcagc 600  
aacagaactg aattcctggt cagtggctct gggttctctg cagcgtgagg 650  
gactcagccc tggggccgaa gaggtggggg tggctgccct gcagttgcc 700  
aggcctata accactacag ccagggtca gacctggccc tgctgcagct 750  
cgccccccc acgaccaca caccctctg cctgccccag cccgcccac 800  
gcttccccctt tggagcctcc tgctgggcca ctggctggga tcaggacacc 850  
agtgatgctc ctgggacct acgcaatctg cgcctgcgtc tcacagtcg 900  
ccccacatgt aactgtatct acaaccagct gcaccagcga cacctgtcca 950  
accggccccg gcctgggatg ctatgtgggg gccccagcc tggggtgcag 1000  
ggccccctgc agggagattc cgggggccct gtgctgtgcc tcgagcctga 1050

cggacactgg gttcaggctg gcatcatcag ctttgcata agcttgccc 1100  
aggaggacgc tctgtgctg ctgaccaaca cagctgctca cagttcctgg 1150  
ctgcaggctc gagttcaggg ggcagctttc ctggcccaga gccagagac 1200  
cccggagatg agtgatgagg acagctgtgt agcctgtgga tccttgagga 1250  
cagcaggctc ccaggcagga gcacctccc catggcctg ggaggccagg 1300  
ctgatgcacc agggacagct ggctgtggc ggagccctgg tgcagagga 1350  
ggcggtgcta actgtgccc actgctcat tgggcgccag gcccagagg 1400  
aatggagcgt agggctgggg accagaccgg aggagtgggg cctgaagcag 1450  
ctcatcctgc atggagccta caccaccct gaggggggct acgacatgc 1500  
cctcctgctg ctggcccagc ctgtgacct gggagccagc ctgcggcccc 1550  
tctgctgcc ctatcctgac caccacctgc ctgatgggga gcgtggctgg 1600  
gttctgggac gggcccgcc aggagcaggc atcagctccc tccagacagt 1650  
gcccgtgacc ctctggggc ctagggcctg cagccggctg catgcagctc 1700  
ctgggggtga tggcagcct attctgccg ggatggtgtg taccagtgt 1750  
gtgggtgagc tgcccagctg tgaggcctg tctggggcac cactggtgca 1800  
tgagtgagg ggcacatggt tctggccgg gctgcacagc ttcggagatg 1850  
cttgccaagg ccccgccagg ccggcgtct tcaccgcct cctgcctat 1900  
gaggactggg tcagcagttt ggactggcag gtctacttcg ccgaggaacc 1950  
agagcccag gctgagcctg gaagctgct ggccaacata agccaacaa 2000  
ccagctgctg acaggggacc tggccattct caggacaaga gaatgcaggc 2050  
aggcaaatg cattactgcc cctgtctcc ccacctgtc atgtgtgatt 2100  
ccaggacca gggcaggccc agaagcccag cagctgtggg aaggaacctg 2150  
cctggggcca cagtgccca ctccccacc tcaggacag ggtgtctgt 2200



ggacactccc acaccaact ctgctaccaa gcagcgtct cagcttct 2250

cctccttac tcttcagat acaatcacgc cagccacgtt gtttgaaaa 2300

ttctttttt tggggggcag cagtttct tttttaaac ttaataaat 2350

tgttacaaaa taaaa 2365

<210> 132

<211> 571

<212> PRT

<213> Homo sapiens

<400> 132

Met Leu Leu Ser Ser Leu Val Ser Leu Ala Gly Ser Val Tyr Leu

1 5 10 15

Ala Trp Ile Leu Phe Phe Val Leu Tyr Asp Phe Cys Ile Val Cys

20 25 30

Ile Thr Thr Tyr Ala Ile Asn Val Ser Leu Met Trp Leu Ser Phe

35 40 45

Arg Lys Val Gln Glu Pro Gln Gly Lys Ala Lys Arg His Gly Asn

50 55 60

Thr Val Pro Gly Glu Trp Pro Trp Gln Ala Ser Val Arg Arg Gln

65 70 75

Gly Ala His Ile Cys Ser Gly Ser Leu Val Ala Asp Thr Trp Val

80 85 90

Leu Thr Ala Ala His Cys Phe Glu Lys Ala Ala Ala Thr Glu Leu

95 100 105

Asn Ser Trp Ser Val Val Leu Gly Ser Leu Gln Arg Glu Gly Leu

110 115 120

Ser Pro Gly Ala Glu Glu Val Gly Val Ala Ala Leu Gln Leu Pro

125 130 135

Arg Ala Tyr Asn His Tyr Ser Gln Gly Ser Asp Leu Ala Leu Leu

140 145 150

Gln Leu Ala His Pro Thr Thr His Thr Pro Leu Cys Leu Pro Gln

155	160	165
Pro Ala His Arg Phe Pro Phe Gly Ala Ser Cys Trp Ala Thr Gly		
170	175	180
Trp Asp Gln Asp Thr Ser Asp Ala Pro Gly Thr Leu Arg Asn Leu		
185	190	195
Arg Leu Arg Leu Ile Ser Arg Pro Thr Cys Asn Cys Ile Tyr Asn		
200	205	210
Gln Leu His Gln Arg His Leu Ser Asn Pro Ala Arg Pro Gly Met		
215	220	225
Leu Cys Gly Gly Pro Gln Pro Gly Val Gln Gly Pro Cys Gln Gly		
230	235	240
Asp Ser Gly Gly Pro Val Leu Cys Leu Glu Pro Asp Gly His Trp		
245	250	255
Val Gln Ala Gly Ile Ile Ser Phe Ala Ser Ser Cys Ala Gln Glu		
260	265	270
Asp Ala Pro Val Leu Leu Thr Asn Thr Ala Ala His Ser Ser Trp		
275	280	285
Leu Gln Ala Arg Val Gln Gly Ala Ala Phe Leu Ala Gln Ser Pro		
290	295	300
Glu Thr Pro Glu Met Ser Asp Glu Asp Ser Cys Val Ala Cys Gly		
305	310	315
Ser Leu Arg Thr Ala Gly Pro Gln Ala Gly Ala Pro Ser Pro Trp		
320	325	330
Pro Trp Glu Ala Arg Leu Met His Gln Gly Gln Leu Ala Cys Gly		
335	340	345
Gly Ala Leu Val Ser Glu Glu Ala Val Leu Thr Ala Ala His Cys		
350	355	360
Phe Ile Gly Arg Gln Ala Pro Glu Glu Trp Ser Val Gly Leu Gly		
365	370	375
Thr Arg Pro Glu Glu Trp Gly Leu Lys Gln Leu Ile Leu His Gly		

380	385	390
Ala Tyr Thr His Pro Glu Gly Gly Tyr Asp Met Ala Leu Leu Leu		
395	400	405
Leu Ala Gln Pro Val Thr Leu Gly Ala Ser Leu Arg Pro Leu Cys		
410	415	420
Leu Pro Tyr Pro Asp His His Leu Pro Asp Gly Glu Arg Gly Trp		
425	430	435
Val Leu Gly Arg Ala Arg Pro Gly Ala Gly Ile Ser Ser Leu Gln		
440	445	450
Thr Val Pro Val Thr Leu Leu Gly Pro Arg Ala Cys Ser Arg Leu		
455	460	465
His Ala Ala Pro Gly Gly Asp Gly Ser Pro Ile Leu Pro Gly Met		
470	475	480
Val Cys Thr Ser Ala Val Gly Glu Leu Pro Ser Cys Glu Gly Leu		
485	490	495
Ser Gly Ala Pro Leu Val His Glu Val Arg Gly Thr Trp Phe Leu		
500	505	510
Ala Gly Leu His Ser Phe Gly Asp Ala Cys Gln Gly Pro Ala Arg		
515	520	525
Pro Ala Val Phe Thr Ala Leu Pro Ala Tyr Glu Asp Trp Val Ser		
530	535	540
Ser Leu Asp Trp Gln Val Tyr Phe Ala Glu Glu Pro Glu Pro Glu		
545	550	555
Ala Glu Pro Gly Ser Cys Leu Ala Asn Ile Ser Gln Pro Thr Ser		
560	565	570

Cys

<210> 133

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 133

cctgtgctgt gcctcgagcc tgac 24

<210> 134

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 134

gtgggcagca gtagcaccg cctc 24

<210> 135

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 135

ggctggcatc atcagcttg catcaagctg tgcccaggag gacgc 45

<210> 136

<211> 1998

<212> DNA

<213> Homo sapiens

<400> 136

cgggccgccc ccggcccca ttcgggccgg gcctcgctgc ggcggcgact 50

gagccaggct gggccgcgtc cctgagtccc agagtcggcg cggcgcggca 100

ggggcagcct tccaccacgg ggagcccagc tgcagccgc ctacaggaa 150

gatgctgctg cggcggggca gccctggcat ggggtgcat gtgggtgcag 200

ccctgggagc actgtggttc tgctcacag gagccctgga ggtccaggtc 250

cctgaagacc cagtgggtgc actggtgggc accgatgcca ccctgtgctg 300

ctccttctcc cctgagcctg gcttcagcct ggcacagctc aacctcatct 350  
ggcagctgac agatacaaaa cagctgggtc acagctttgc tgagggccag 400  
gaccagggca ggcctatgc caaccgcacg gccctctcc cggacctgct 450  
ggcacagggc aacgcatccc tgaggctgca ggcgctgctg gtggcggacg 500  
agggcagctt cacctgcttc gtgagcatcc gggatttcgg cagcgtgcc 550  
gtcagcctgc aggtggccgc tcctactcg aagcccagca tgaccctgga 600  
gccaacaag gacctgcggc caggggacac ggtgaccatc acgtgctcca 650  
gctaccaggg ctacctgag gctgaggtgt tctggcagga tgggcagggt 700  
gtgccctga ctggcaactg gaccacgtcg cagatggcca acgagcaggg 750  
ctgtttgat gtgcacagcg tctgcgggt ggtgctgggt gcgaatggca 800  
cctacagctg cctgggtgcg aacccctgc tgcagcagga tgcgcacrgc 850  
tctgtacca tcacagggca gcctatgaca ttccccccag aggcctgtg 900  
ggtgacctg gggctgtctg tctgtctcat tgcactgctg gtggccctgg 950  
ctttcgtgtg ctggagaaag atcaaacaga gctgtgagga ggagaatgca 1000  
ggagctgagg accaggatgg ggagggagaa ggctccaaga cagccctgca 1050  
gcctctgaaa cactctgaca gcaaagaaga tgatggacaa gaaatagcct 1100  
gaccatgagg accagggagc tgctaccct cctacagct cctaccctct 1150  
ggctgcaatg gggctgcact gtgagccctg ccccaacag atgcatcctg 1200  
ctctgacagg tgggtcctt ctcaaagga tgcgatacac agaccactgt 1250  
gcagccttat ttctcaatg gacatgattc ccaagtcatc ctgctgcctt 1300  
tttcttata gacacaatga acagaccacc cacaacctta gttcttaag 1350  
tcatectgcc tgctgcctta tttcacagta catacatttc ttagggacac 1400  
agtacactga ccacatcacc acctcttct tccagtgctg cgtggaccat 1450

ctggctgct ttttctcca aaagatgcaa tattcagact gactgacccc 1500  
ctgccttatt tcaccaaaga cacgatgcat agtcaccccg gccttgttc 1550  
tccaatggcc gtgatacact agtgatcatg ttcagccctg cttcacctg 1600  
catagaatct ttttctca gacagggaca gtgcggcctc aacatctct 1650  
ggagtctaga agctgtttcc tttcccctcc ttctccctg cccaagtga 1700  
agacagggca gggccaggaa tgcttggggg acaccgaggg gactgcccc 1750  
cacccccacc atggtgctat tctggggctg gggcagtctt ttctggctt 1800  
gcctctggcc agctcctggc ctctggtaga gtgagacttc agacgttctg 1850  
atgcctccg gatgcatct ctccctgcc caggaatgga agatgtgagg 1900  
acttctaatt taaatgtggg actcggaggg atttgtaaa ctgggggtat 1950  
atttgggga aaataaatgt ctttgtaaaa aaaaaaaaaa aaaaaaaaa 1998

<210> 137  
<211> 316  
<212> PRT  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 233  
<223> unknown amino acid

<400> 137  
Met Leu Arg Arg Arg Gly Ser Pro Gly Met Gly Val His Val Gly  
1 5 10 15  
Ala Ala Leu Gly Ala Leu Trp Phe Cys Leu Thr Gly Ala Leu Glu  
20 25 30  
Val Gln Val Pro Glu Asp Pro Val Val Ala Leu Val Gly Thr Asp  
35 40 45  
Ala Thr Leu Cys Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu  
50 55 60

Ala Gln Leu Asn Leu Ile Trp Gln Leu Thr Asp Thr Lys Gln Leu  
65 70 75

Val His Ser Phe Ala Glu Gly Gln Asp Gln Gly Ser Ala Tyr Ala  
80 85 90

Asn Arg Thr Ala Leu Phe Pro Asp Leu Leu Ala Gln Gly Asn Ala  
95 100 105

Ser Leu Arg Leu Gln Arg Val Arg Val Ala Asp Glu Gly Ser Phe  
110 115 120

Thr Cys Phe Val Ser Ile Arg Asp Phe Gly Ser Ala Ala Val Ser  
125 130 135

Leu Gln Val Ala Ala Pro Tyr Ser Lys Pro Ser Met Thr Leu Glu  
140 145 150

Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr Val Thr Ile Thr Cys  
155 160 165

Ser Ser Tyr Gln Gly Tyr Pro Glu Ala Glu Val Phe Trp Gln Asp  
170 175 180

Gly Gln Gly Val Pro Leu Thr Gly Asn Val Thr Thr Ser Gln Met  
185 190 195

Ala Asn Glu Gln Gly Leu Phe Asp Val His Ser Val Leu Arg Val  
200 205 210

Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn Pro  
215 220 225

Val Leu Gln Gln Asp Ala His Xaa Ser Val Thr Ile Thr Gly Gln  
230 235 240

Pro Met Thr Phe Pro Pro Glu Ala Leu Trp Val Thr Val Gly Leu  
245 250 255

Ser Val Cys Leu Ile Ala Leu Leu Val Ala Leu Ala Phe Val Cys  
260 265 270

Trp Arg Lys Ile Lys Gln Ser Cys Glu Glu Glu Asn Ala Gly Ala  
275 280 285

Glu Asp Gln Asp Gly Glu Gly Glu Gly Ser Lys Thr Ala Leu Gln  
290 295 300

Pro Leu Lys His Ser Asp Ser Lys Glu Asp Asp Gly Gln Glu Ile  
305 310 315

Ala

<210> 138

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 138

ctggcacagc tcaacctcat ctgg 24

<210> 139

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 139

gctgtctgtc tgtctcattg 20

<210> 140

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 140

ggacacagta tactgaccac 20

<210> 141

<211> 24

<212> DNA



<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 141

tgccaaccag gcagctgtaa gtgc 24

<210> 142

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 142

tggaagaaga ggggtggtgat gtgg 24

<210> 143

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 143

cagctgacag acaccaaca gctggtgcac agttcaccg aaggc 45

<210> 144

<211> 2336

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 1620, 1673

<223> unknown base

<400> 144

ttcgtgacc ttgagaaaag agttggtgtt aaatgtcca cgtcttctaa 50

gaagggggag tcctgaactt gtctgaagcc cttgtccgta agccttgaac 100

tacgttctta aatctatgaa gtcgagggac ctttcgctgc tttttaggg 150  
acttcttcc ttgcttcagc aacatgagc tttcttgg gaacgcggtc 200  
ttgactctgt tcgtcacttc ttgattggg gctttgatcc ctgaaccaga 250  
agtgaaaatt gaagtctcc agaagccatt catctgcat cgcaagacca 300  
aaggagggga ttgatgtg gtccactatg aaggctactt agaaaaggac 350  
ggctccttat ttcactccac tcacaaacat aacaatggc agcccattg 400  
gtttaccctg ggcacctgg aggctctcaa aggttgggac cagggctga 450  
aaggaatgtg tgtaggagag aagagaaagc tcatcattcc tctgctctg 500  
ggctatggaa aagaaggaaa aggtaaaatt cccccagaaa gtacactgat 550  
atttaatt gatctcctgg agattcgaaa tggaccaaga tccatgaat 600  
cattcaaga aatggatctt aatgatgact ggaaactctc taaagatgag 650  
gttaaagcat atttaagaa ggagttgaa aacatggtg cggtgggtaa 700  
tgaaagtcat catgatgctt tggaggagga tttttgat aaagaagatg 750  
aagacaaaga tgggttata tctgccagag aattacata taaacacgat 800  
gagttataga gatacatcta ccctttaat atagcactca tcttcaaga 850  
gagggcagtc atctttaaag aacatttat tttatacaa tgttcttct 900  
tgcttggtt ttattttta tatattttt ctgactccta ttaaagaac 950  
cccttaggtt tctaagtacc catttcttc tgataagta ttgggaagaa 1000  
aaagctaatt ggtctttaa tagaagactt ctggacaatt ttcacttc 1050  
acagatatga agcttggtt tactttctca ctataaatt taaatgtg 1100  
caactgggaa tataccacga catgagacca ggtagatga caaattagca 1150  
ccctatatt ctgcttccct ctatttctc caagtagag gtcaacatt 1200  
gaaaagcctt ttgcaatagc ccaaggctg ctatttcat gttataatga 1250

aatagttat gtgtaactgg cictgagtct ctgcttgagg accagaggaa 1300  
aatggtggtt ggacctgact tgtaatggc tactgcttta ctaaggagat 1350  
gtgcaatgct gaagttagaa acaagggttaa tagccaggca tggtaggctca 1400  
tgcctgtaat cccagcactt tgggaggctg aggcggggcgg atcacctgag 1450  
gttgggagtt cgagaccagc ctgaccaaca cggagaaacc ctatctctac 1500  
taaaaataca aagtagcccg gcgtgggtgat gcgtgcctgt aatcccagct 1550  
accaggaag gctgaggcgg cagaatcact tgaacccgag gccgaggttg 1600  
cggtaagccg agatcacctn cagcctggac actctgtctc gaaaaaagaa 1650  
aagaacacgg ttaataccat atnaatatgt atgcattgag acatgctacc 1700  
taggacttaa gctgatgaag cttggctcct agtgattggt ggcctattat 1750  
gataaatagg acaaatcatt tatgtgtgag tttctttgta ataaatgta 1800  
tcaatatggt atagatgagg tagaaagtta tatttatatt caatattac 1850  
ttcttaagc tagcgggaata tccttcctgg ttctttaatg ggtagtctat 1900  
agtatattat actacaataa cattgtatca taagataaag tagtaaacca 1950  
gtctacattt tcccatttct gtctcatcaa aaactgaagt tagctgggtg 2000  
tggtaggctca tgcctgtaat cccagcactt tgggggcca gagggtgga 2050  
tcacttgaga tcaggagttc aagaccagcc tggccaacat ggtgaaacct 2100  
tgtctctact aaaaatacaa aaattagcca ggcgtgggtg tgcacacctg 2150  
tagtcccagc tactcgggag gctgagacag gagatttct tgaacccggg 2200  
agcgggaggt tgcagtgagc caagattgtg cactgcact ccagcctggg 2250  
tgacagagca agactccatc tcaaaaaaaaa aaaaaagaag-cagacctaca 2300  
gcagctacta ttgaataaat acctatcctg gatttt 2336

<211> 211  
<212> PRT  
<213> Homo sapiens

<400> 145

Met Arg Leu Phe Leu Trp Asn Ala Val Leu Thr Leu Phe Val Thr  
1 5 10 15

Ser Leu Ile Gly Ala Leu Ile Pro Glu Pro Glu Val Lys Ile Glu  
20 25 30

Val Leu Gln Lys Pro Phe Ile Cys His Arg Lys Thr Lys Gly Gly  
35 40 45

Asp Leu Met Leu Val His Tyr Glu Gly Tyr Leu Glu Lys Asp Gly  
50 55 60

Ser Leu Phe His Ser Thr His Lys His Asn Asn Gly Gln Pro Ile  
65 70 75

Trp Phe Thr Leu Gly Ile Leu Glu Ala Leu Lys Gly Trp Asp Gln  
80 85 90

Gly Leu Lys Gly Met Cys Val Gly Glu Lys Arg Lys Leu Ile Ile  
95 100 105

Pro Pro Ala Leu Gly Tyr Gly Lys Glu Gly Lys Gly Lys Ile Pro  
110 115 120

Pro Glu Ser Thr Leu Ile Phe Asn Ile Asp Leu Leu Glu Ile Arg  
125 130 135

Asn Gly Pro Arg Ser His Glu Ser Phe Gln Glu Met Asp Leu Asn  
140 145 150

Asp Asp Trp Lys Leu Ser Lys Asp Glu Val Lys Ala Tyr Leu Lys  
155 160 165

Lys Glu Phe Glu Lys His Gly Ala Val Val Asn Glu Ser His His  
170 175 180

Asp Ala Leu Val Glu Asp Ile Phe Asp Lys Glu Asp Glu Asp Lys  
185 190 195

Asp Gly Phe Ile Ser Ala Arg Glu Phe Thr Tyr Lys His Asp Glu

200

205

210

Leu

<210> 146

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 146

cttccttgc ttcagcaaca tgaggc 26

<210> 147

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 147

gcccagagca ggaggaatga tgagc 25

<210> 148

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 148

gtggaacgcg gtcttgactc tgttcgtcac ttctttgatt ggggctttg 49

<210> 149

<211> 2196

<212> DNA

<213> Homo sapiens

<400> 149

aataaagctt ccttaatggt gatatgtct ttgaagtaca tccgtgcatt 50

tttttttagc atccaacat tectccttg tagttctgc cccctcaat 100  
cacctctcc cgtagccac ccgactaaca tctcagtctc tgaaaatgca 150  
cagagatgcc tggctacctc gccctgcctt cagcctcacg gggctcagtc 200  
tctttttctc tttggtgcca ccaggacgga gcatggaggt cacagtacct 250  
gccacctca acgtctcaa tggctctgac gcccgctgc cctgcacctt 300  
caactcctgc tacacagtga accacaaaca gttctcctg aactggactt 350  
accaggagtg caacaactgc tctgaggaga tgttctcca gttccgcatg 400  
aagatcatta acctgaagct ggagcggttt caagaccgcg tggagtctc 450  
aggaacccc agcaagtacg atgtgctggt gatgctgaga aacgtgcagc 500  
cggaggatga ggggattac aactgctaca tcatgaacce cctgaccgc 550  
caccgtggcc atggcaagat ccatctgcag gtcctcatgg aagagcccc 600  
tgagcgggac tccacggtgg ccgtgattgt gggcgcctcc gtcgggggct 650  
tctggctgt ggtcatcttg gtgctgatgg tggcaagtg tgtgaggaga 700  
aaaaaagagc agaagctgag cacagatgac ctgaagaccg aggaggaggg 750  
caagacggac ggtgaaggca acccgatga tggcgccaag tagtgggtgg 800  
ccggcctgc agcctcccgt gtcccctc ctcccctc cgccctgtac 850  
agtgacctg cctgctcgt cttggtgtgc ttcccgtgac ctaggacccc 900  
agggccacc tgggcctcc tgaaccccc acttcgtatc tcccacctg 950  
caccaagagt gaccactct ctccatccg agaaacctgc catgctctgg 1000  
gacgtgtggg ccctggggag aggagagaaa gggctccac ctgccagtcc 1050  
ctggggggag gcaggaggca catgtgaggg tcccagaga gaagggagtg 1100  
ggtgggcagg ggtagaggag gggccgctgt cacctgccca gtgcttgcct 1150  
ggcagtggct tcagagagga cctggtgggg agggagggtt ttctgtgct 1200

gacagcgctc cctcaggagg gccttggcct ggcacggctg tgctcctccc 1250  
ctgctcccag cccagagcag ccatcaggct ggaggtgacg atgagttcct 1300  
gaaacttga ggggcatgtt aaagggatga ctgtgcattc cagggcactg 1350  
acggaaagcc agggctgcag gcaaagctgg acatgtgcc tggcccagga 1400  
ggccatgttg ggccctcgtt tccattgcta gtggcctcct tggggctcct 1450  
gttggtcct aatcccttag gactgtggat gaggccagac tggaagagca 1500  
gctccaggta gggggccatg tttcccagcg gggaccacc aacagaggcc 1550  
agttcaaag tcagctgagg ggctgagggg tggggctcca tggatgaatgc 1600  
aggttctgc aggtctgcc ttctccatgg ggtaaccacc ctgcctggg 1650  
caggggcagc caaggctggg aatgaggag gccatgcaca ggggtggggca 1700  
gctttcttg gggctcagt gagaactctc ccagttgcc ttggtgggt 1750  
ttcacctgg ctttggcta cagagagga agggaaagcc tgaggccggc 1800  
ataaggggag gccttgaac ctgagctgcc aatgccagcc ctgtccatc 1850  
tgcggccacg ctactcgtc ctctcccaac aactccctc gtggggacia 1900  
aagtgacaat ttagggcag gcacagtggc tcacgcctgt aatcccagca 1950  
cttgggagg ccaaggcggg tggattacct ccatctgtt agtagaatg 2000  
ggcaaaacc catctact aaaataca gaattagctg ggcgtggtg 2050  
cgtgtgcctg taatcccagc tatttgggag gctgaggcag gagaatcgt 2100  
tgagcccggg aagcagaggt tgcagtgaac tgagatagt atagtccac 2150  
tgcaattcag cctgggtgac atagagagac tccatctca aaaaa 2196

<210> 150

<211> 215

<212> PRT

<213> Homo sapiens

<400> 150

Met His Arg Asp Ala Trp Leu Pro Arg Pro Ala Phe Ser Leu Thr  
1 5 10 15

Gly Leu Ser Leu Phe Phe Ser Leu Val Pro Pro Gly Arg Ser Met  
20 25 30

Glu Val Thr Val Pro Ala Thr Leu Asn Val Leu Asn Gly Ser Asp  
35 40 45

Ala Arg Leu Pro Cys Thr Phe Asn Ser Cys Tyr Thr Val Asn His  
50 55 60

Lys Gln Phe Ser Leu Asn Trp Thr Tyr Gln Glu Cys Asn Asn Cys  
65 70 75

Ser Glu Glu Met Phe Leu Gln Phe Arg Met Lys Ile Ile Asn Leu  
80 85 90

Lys Leu Glu Arg Phe Gln Asp Arg Val Glu Phe Ser Gly Asn Pro  
95 100 105

Ser Lys Tyr Asp Val Ser Val Met Leu Arg Asn Val Gln Pro Glu  
110 115 120

Asp Glu Gly Ile Tyr Asn Cys Tyr Ile Met Asn Pro Pro Asp Arg  
125 130 135

His Arg Gly His Gly Lys Ile His Leu Gln Val Leu Met Glu Glu  
140 145 150

Pro Pro Glu Arg Asp Ser Thr Val Ala Val Ile Val Gly Ala Ser  
155 160 165

Val Gly Gly Phe Leu Ala Val Val Ile Leu Val Leu Met Val Val  
170 175 180

Lys Cys Val Arg Arg Lys Lys Glu Gln Lys Leu Ser Thr Asp Asp  
185 190 195

Leu Lys Thr Glu Glu Glu Gly Lys Thr Asp Gly Glu Gly Asn Pro  
200 205 210

Asp Asp Gly Ala Lys  
215



<210> 151  
<211> 524  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 103, 233  
<223> unknown base

<400> 151  
gttgatatg tctgaagta catccgtgca ttttttag catccaacca 50  
  
tctcccttg tagttctgc cccctcaaat caccttctcc cttagccac 100  
  
ccnactaaca tctcagtctc tgaaaatgca cagagatgcc tggctacctc 150  
  
gccctgcctt cagcctcag gggctcagtc tcttttctc tttggtgcca 200  
  
ccaggacgga gcatggaggt ccacagtacc tgnccacct caacgtcctc 250  
  
aatggctctg acgcccgcct gccctgccct tcaactcctg ctacacagtg 300  
  
aaccacaaac agttctcct gaactggact taccaggagt gcaacaactg 350  
  
ctctgaggag atgttctcc agttccgcat gaagatcatt aacctgaagc 400  
  
tggagcgggt tcaagaccgc gtggagtct caggaaccc cagcaagtac 450  
  
gatgtgctgg tgatgctgag aaactgacag ccggaggatg aggggattta 500  
  
caactgctac atcatgaacc cccc 524

<210> 152  
<211> 368  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 56, 123  
<223> unknown base

<400> 152  
tcacggggct catctcttt tctcttgggt gccaccagg acggagcatg 50

gaggncaca tacctgccac cctcaacgtc ctcaatggct ttgacgccg 100  
cctgcctgc acctcaact cngctacac agtgaaccac aaacagttct 150  
ccctgaactg gattaccag gagtgcaaca actggctctg aggagatgtt 200  
cctccagttc ccgatggaa gatcattta cctgaaagct ggaagcggtt 250  
ttcaagaacc gcgtggaagt ttctcaggga accccagcaa gtacgatgtg 300  
tcggtgatgc tgagaaacgt gcagccggag gatgagggga ttacaactg 350  
ctacatcatg aaccccc 368

<210> 153  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 153  
acggagcatg gagtccaca gtac 24

<210> 154  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 154  
gcacgtttct cagcatcacc gac 23

<210> 155  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 155

cgctgcct gcacctcaa ctctgctac acagtgaacc acaaacagtt 50

<210> 156

<211> 2680

<212> DNA

<213> Homo sapiens

<400> 156

tggggcacc gtcgtacacc atgggcctcc acctccgcc ctaccgtgtg 50

gggtgctcc cggatggcct cctgttctc ttgctgctgc taatgctgt 100

cgcgaccaca gcgctcccgg ccggacgtca cccccagtg gtgctgtcc 150

ctggtgatt ggtaaccaa ctggaagcca agctggacaa gccgacagt 200

gtgactacc tctgtccaa gaagaccgaa agctactca caatctggct 250

gaacctgaa ctgctgctgc ctgtcatcat tgactgctgg atgacaata 300

tcaggctgtt ttacaacaaa acatccagg ccaccagtt tctgatggt 350

gtggatgtac gtgtccctgg ctttgggaag accttctcac tggagttct 400

ggacccagc aaaagcagcg tgggttccta ttccacacc atggtggaga 450

gccttgtggg ctggggctac acacggggtg aggatgtccg aggggctccc 500

tatgactggc gccgagcccc aatgaaaac gggccctact tctggccct 550

ccgcgagatg atcgaggaga tgtaccagct gtatgggggc cccgtggtgc 600

tggttgccca cagtatgggc aacatgtaca cgtctactt tctgcagcgg 650

cagccgcagg cctggaagga caagtatatc cgggccttcg tgcactggg 700

tgcgccctgg gggggcgtgg ccaagaccct gcgcgtcctg gcttcaggag 750

acaacaaccg gatccagtc atcgggcccc tgaagatccg ggagcagcag 800

cggtcagctg tctccaccag ctggctgctg ccctacaact acacatggtc 850

acctgagaag gtgttcgtgc agacaccac aatcaactac aactgcggg 900

actaccgcaa gttctccag gacatcggct ttgaagatgg ctggctcatg 950

cggcaggaca cagaagggt ggtggaagcc acgatgccac ctggcgtgca 1000  
gctgcactgc ctctatggta ctggcgtccc cacaccagac tcttctact 1050  
atgagagctt cctgaccgt gaccctaaa tctgcttgg tgacggcgt 1100  
ggtactgtga acttgaagag tgcctgcag tgccaggcct ggcagagccg 1150  
ccaggagcac caagtgtgc tgcaggagct gccaggcagc gagcacatcg 1200  
agatgctggc caacgccacc accctggcct atctgaaacg tgtgctcctt 1250  
gggccctgac tctgtgcca caggactcct gtggctcggc cgtggacctg 1300  
ctgttggcct ctggggctgt catggcccac gcgttttga aagtttga 1350  
ctcaccattc aaggccccga gtcttgact gtgaagcatc tgccatgggg 1400  
aagtgtgtt tgtatcctt tctctgtggc agtgaagaag gaagaaatga 1450  
gagtctagac tcaagggaca ctggatggca agaatgctgc tgatggtgga 1500  
actgctgtga ccttaggact ggctccacag ggtggactgg ctgggccctg 1550  
gtcccagtcc ctgcctgggg ccatgtgtcc cctattcct gtgggctttt 1600  
catactgccc tactgggccc tggccccga gccttcctat gagggatgtt 1650  
actgggctgt ggtcctgtac ccagaggctc cagggatcgg ctctggccc 1700  
ctcgggtgac cctcccaca caccagccac agataggcct gccactggtc 1750  
atgggtagct agagetgctg gcttcctgt ggcttagctg gtggccagcc 1800  
tgactggctt cctgggcgag cctagtagct cctgcaggca ggggcagttt 1850  
gttgcgttct tctggttcc caggccctgg gacatctcac tccactccta 1900  
cctcccctac caccaggagc attcaagctc tggattgggc agcagatgtg 1950  
ccccagtc cgcaggctgt gttccagggg cctgatttc ctggatgtg 2000  
ctattgccc caggactgaa gctgcctccc ttcaccctgg gactgtggtt 2050  
ccaaggatga gagcagggtt tggagccatg gccttctggg aacctatgga 2100

gaaaggaat ccaaggaagc agccaaggct gctcgcagct tcctgagct 2150  
 gcaccttg ctaacccac catcacactg ccacctgcc ctagggtctc 2200  
 actagtacca agtgggtcag cacagggctg aggatggggc tcctatccac 2250  
 cctggccagc acccagctta gtgctgggac tagcccagaa acttgaatgg 2300  
 gacctgaga gagccagggg tcccctgagg ccccctagg ggctttctgt 2350  
 ctgccccagg gtgctccatg gatctccctg tggcagcagg catggagagt 2400  
 cagggtgcc ttcattggcag taggtcttaa gtgggtgact ggccacaggc 2450  
 cgagaaaagg gtacagcctc taggtggggg tcccaaagac gccttcaggc 2500  
 tggactgagc tgctctccca cagggtttct gtcagctgg attttctctg 2550  
 ttgcatacat gcctggcctc tgctcccct tgttctgag tggccccaca 2600  
 tggggctctg agcaggctgt atctggattc tggcaataaa agtactctgg 2650  
 atgctgtaaa aaaaaaaaaa aaaaaaaaaa 2680

<210> 157  
 <211> 412  
 <212> PRT  
 <213> Homo Sapien

<400> 157  
 Met Gly Leu His Leu Arg Pro Tyr Arg Val Gly Leu Leu Pro Asp  
 1 5 10 15  
 Gly Leu Leu Phe Leu Leu Leu Leu Met Leu Leu Ala Asp Pro  
 20 25 30  
 Ala Leu Pro Ala Gly Arg His Pro Pro Val Val Leu Val Pro Gly  
 35 40 45  
 Asp Leu Gly Asn Gln Leu Glu Ala Lys Leu Asp Lys Pro Thr Val  
 50 55 60  
 Val His Tyr Leu Cys Ser Lys Lys Thr Glu Ser Tyr Phe Thr Ile  
 65 70 75

Trp Leu Asn Leu Glu Leu Leu Pro Val Ile Ile Asp Cys Trp  
80 85 90

Ile Asp Asn Ile Arg Leu Val Tyr Asn Lys Thr Ser Arg Ala Thr  
95 100 105

Gln Phe Pro Asp Gly Val Asp Val Arg Val Pro Gly Phe Gly Lys  
110 115 120

Thr Phe Ser Leu Glu Phe Leu Asp Pro Ser Lys Ser Ser Val Gly  
125 130 135

Ser Tyr Phe His Thr Met Val Glu Ser Leu Val Gly Trp Gly Tyr  
140 145 150

Thr Arg Gly Glu Asp Val Arg Gly Ala Pro Tyr Asp Trp Arg Arg  
155 160 165

Ala Pro Asn Glu Asn Gly Pro Tyr Phe Leu Ala Leu Arg Glu Met  
170 175 180

Ile Glu Glu Met Tyr Gln Leu Tyr Gly Gly Pro Val Val Leu Val  
185 190 195

Ala His Ser Met Gly Asn Met Tyr Thr Leu Tyr Phe Leu Gln Arg  
200 205 210

Gln Pro Gln Ala Trp Lys Asp Lys Tyr Ile Arg Ala Phe Val Ser  
215 220 225

Leu Gly Ala Pro Trp Gly Gly Val Ala Lys Thr Leu Arg Val Leu  
230 235 240

Ala Ser Gly Asp Asn Asn Arg Ile Pro Val Ile Gly Pro Leu Lys  
245 250 255

Ile Arg Glu Gln Gln Arg Ser Ala Val Ser Thr Ser Trp Leu Leu  
260 265 270

Pro Tyr Asn Tyr Thr Trp Ser Pro Glu Lys Val Phe Val Gln Thr  
275 280 285

Pro Thr Ile Asn Tyr Thr Leu Arg Asp Tyr Arg Lys Phe Phe Gln  
290 295 300

Asp Ile Gly Phe Glu Asp Gly Trp Leu Met Arg Gln Asp Thr Glu  
305 310 315

Gly Leu Val Glu Ala Thr Met Pro Pro Gly Val Gln Leu His Cys  
320 325 330

Leu Tyr Gly Thr Gly Val Pro Thr Pro Asp Ser Phe Tyr Tyr Glu  
335 340 345

Ser Phe Pro Asp Arg Asp Pro Lys Ile Cys Phe Gly Asp Gly Asp  
350 355 360

Gly Thr Val Asn Leu Lys Ser Ala Leu Gln Cys Gln Ala Trp Gln  
365 370 375

Ser Arg Gln Glu His Gln Val Leu Leu Gln Glu Leu Pro Gly Ser  
380 385 390

Glu His Ile Glu Met Leu Ala Asn Ala Thr Thr Leu Ala Tyr Leu  
395 400 405

Lys Arg Val Leu Leu Gly Pro  
410

<210> 158

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 158

ctggggctac acacggggtg agg 23

<210> 159

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 159

ggtgccgctg cagaaagtag agcg 24

<210> 160  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 160  
gccccaaatg aaaacgggcc ctacttctg gccctccgag agatg 45

<210> 161  
<211> 1512  
<212> DNA  
<213> Homo sapiens

<400> 161  
cggagcgcgtg ggcggacgcg tggggcggcg gcagcggcgg cgacggcgac 50  
atggagagcg gggcctacgg cgcggccaag gcgggcggct ccttcgacct 100  
gcggcgcttc ctgacgcagc cgcaggtggt ggcgcgcgcc gtgtgcttgg 150  
tcttcgctt gatcgtgttc tctgcatct atggtgaggg ctacagcaat 200  
gcccacgagt ctaagcagat gtactgcgtg ttcaaccgca acgaggatgc 250  
ctgccgctat ggcagtcca tcgggggtgct ggccttctg gcctcggcct 300  
tcttcttggg ggtcgcgcg tatttcccc agatcagcaa cgccactgac 350  
cgcaagtacc tggtcattgg tgacctgctc ttctcagctc tctggacctt 400  
cctgtggttt gttggttct gcttctcac caaccagtgg gcagtcacca 450  
accgaagga cgtgctggcg ggggccgact ctgtgagggc agccatcacc 500  
ttcagttct ttccatctt ctctgggggt gtgctggcct cctggccta 550  
ccagcgtac aaggctggcg tggacgactt catccagaat tacgttgacc 600  
ccactccgga cccaacact gcctacgct cctaccagcag tgcattctg 650  
gacaactacc aacagccacc cttaccagc aacgcggaga ccaccgaggg 700



ctaccagccg cccctgtgt actgagtggc ggtagcgtg ggaaggggga 750  
 cagagagggc cctcccctct gccctggact ttccatcag cctcctggaa 800  
 ctgccagccc ctctcttca cctgttccat cctgtgcagc tgacacacag 850  
 ctaaggagcc tcatagcctg gcgggggctg gcagagccac accccaagtg 900  
 cctgtgcca gagggctca gtcagccgct cactctcca gggcactttt 950  
 aggaaaggt ttttagctag tgttttct cgctttaat gacctcagcc 1000  
 ccgctgcag tggctagaag ccagcaggtg cccatgtgct actgacaagt 1050  
 gcctcagctt cccccggcc cgggtcaggc cgtgggagcc gctattatct 1100  
 gcgttctctg ccaaagactc gtgggggcca tcacactgc cctgtgcagc 1150  
 ggagccggac caggctcttg tgtctcact caggtttgct tcccctgtgc 1200  
 ccactgctgt atgatctggg gccaccacc ctgtgccggt ggctctggg 1250  
 ctgcctcccg tgggtgaggg gcggggctgg tgctcatggc acttctctct 1300  
 tgctcccacc cctggcagca gggaagggtt tgcctgaca acaccagct 1350  
 ttatgtaaat attctgcagt tgttacttag gaagcctggg gagggcaggg 1400  
 gtgccccatg gctcccagac tctgtctgtg ccgagtgtat tataaatcg 1450  
 tgggggagat gcccgccctg ggatgctgtt tggagacgga ataatgttt 1500  
 tctcattcaa ag 1512

<210> 162  
 <211> 224  
 <212> PRT  
 <213> Homo sapiens

<400> 162  
 Met Glu Ser Gly Ala Tyr Gly Ala Ala Lys Ala Gly Gly Ser Phe  
 1 5 10 15  
 Asp Leu Arg Arg Phe Leu Thr Gln Pro Gln Val Val Ala Arg Ala  
 20 25 30

Val Cys Leu Val Phe Ala Leu Ile Val Phe Ser Cys Ile Tyr Gly  
35 40 45

Glu Gly Tyr Ser Asn Ala His Glu Ser Lys Gln Met Tyr Cys Val  
50 55 60

Phe Asn Arg Asn Glu Asp Ala Cys Arg Tyr Gly Ser Ala Ile Gly  
65 70 75

Val Leu Ala Phe Leu Ala Ser Ala Phe Phe Leu Val Val Asp Ala  
80 85 90

Tyr Phe Pro Gln Ile Ser Asn Ala Thr Asp Arg Lys Tyr Leu Val  
95 100 105

Ile Gly Asp Leu Leu Phe Ser Ala Leu Trp Thr Phe Leu Trp Phe  
110 115 120

Val Gly Phe Cys Phe Leu Thr Asn Gln Trp Ala Val Thr Asn Pro  
125 130 135

Lys Asp Val Leu Val Gly Ala Asp Ser Val Arg Ala Ala Ile Thr  
140 145 150

Phe Ser Phe Phe Ser Ile Phe Ser Trp Gly Val Leu Ala Ser Leu  
155 160 165

Ala Tyr Gln Arg Tyr Lys Ala Gly Val Asp Asp Phe Ile Gln Asn  
170 175 180

Tyr Val Asp Pro Thr Pro Asp Pro Asn Thr Ala Tyr Ala Ser Tyr  
185 190 195

Pro Gly Ala Ser Val Asp Asn Tyr Gln Gln Pro Pro Phe Thr Gln  
200 205 210

Asn Ala Glu Thr Thr Glu Gly Tyr Gln Pro Pro Pro Val Tyr  
215 220

<210> 163

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 163

tggtcttcgc cttgatcgtg ttct 24

<210> 164

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 164

gtgtactgag cggcggttag 20

<210> 165

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 165

ctgaaggtga tggctgccct cac 23

<210> 166

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 166

ccaggaggct catgggaaag tcc 23

<210> 167

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 167

ccacgagtct aagcagatgt actgcgtgtt caaccgcaac gaggatgcct 50

<210> 168

<211> 3143

<212> DNA

<213> Homo sapiens

<400> 168

gagccaccta ccctgctccg aggccaggcc tgcagggcct catcgccag 50

agggtgatca gtgagcagaa ggatgcccgt ggccgaggcc cccaggttg 100

ctggcgggca gggggacgga ggtgatggcg aggaagcggg gccagagggg 150

atgttcaagg cctgtgagga ctccaagaga aaagcccggg gctacctccg 200

cctggtgccc ctgtttgtgc tgctggccct gctcgtgctg gcttcggcgg 250

gggtgctact ctggtatttc ctagggtaca aggcggaggt gatggtcagc 300

caggtgtact caggcagtct gcgtgtactc aatgccact tctcccagga 350

tcttaccgc cggaatcta gtgccttccg cagtgaacc gccaaagccc 400

agaagatgct caaggagctc atcaccagca cccgcctggg aacttactac 450

aactccagct ccgtctattc ctttggggag ggaccctca cctgettctt 500

ctggttcatt ctccaaatcc ccgagcaccg ccggtgatg ctgagccccg 550

agggtgtgca ggcactgctg gtggaggagc tgctgtccac agtcaacagc 600

tgggtgccg tcccctacag ggccgagtac gaagtggacc ccgagggcct 650

agtgatcctg gaagccagtg tgaagacat agctgcattg aattccacgc 700

tgggttgta ccgctacagc tacgtgggcc agggccaggt cctccggctg 750

aaggggcctg accacctggc ctccagctgc ctgtggcacc tgcagggccc 800

caaggacctc atgctcaaac tccggctgga gtggacgctg gcagagtgcc 850

gggaccgact ggccatgtat gacgtggccg ggcccctgga gaagaggctc 900

atcacctcgg tgtacggctg cagccgccag gagcccgtgg tggaggttct 950  
ggcgtcgggg gccatcatgg cggtcgtctg gaagaagggc ctgcacagct 1000  
actacgacc ctctgtctc tccgtgcagc cgggtgtctt ccaggcctgt 1050  
gaagtgaacc tgacgtgga caacaggctc gactcccagg gcgtcctcag 1100  
caccccgta tccccagct actactgcc ccaaaccac tgctcctggc 1150  
acctcacgt gccctctctg gactacggct tggccctctg gttgatgcc 1200  
tatgactga ggaggcagaa gtatgattg cegtgcacc aggccagtg 1250  
gacgatccag aacaggaggc tgtgtggctt gcgcatctg cagccctacg 1300  
ccgagaggat ccccggttg gccacggccg ggatcacat caactcacc 1350  
tccagatct ccctaccgg gcccggttg cgggtgcact atgcttga 1400  
caaccagtc gaccctgcc ctggagagtt cctctgttct gtgaatggac 1450  
tctgtgccc tgcctgtgat ggggtcaagg actgccccaa cggcctgat 1500  
gagagaaact gcgttgcag agccacattc cagtcaaag aggacagcac 1550  
atgatctca ctgccaagg tctgtgatgg gcagcctgat tgtctcaacg 1600  
gcagcgatga agagcagtc caggaagggg tgccatgtgg gacattcacc 1650  
ttccagtgt aggaccggag ctgcgtgaag aagccaacc cgcagtgtga 1700  
tggcgggccc gactgcaggg acggctcgga tgaggagcac tgtgactgtg 1750  
gcctccaggg cccctccagc cgcattgtg gtggagctgt gtcctccag 1800  
ggtgagtggc catggcaggc cagcctccag gtcggggtc gacacatctg 1850  
tgggggggcc ctatcgtctg accgctgggt gataacagct gccactgct 1900  
tccaggagga cagcatggcc tccacggtgc tgtggaccgt gttctgggc 1950  
aagggtggc agaactcgc ctggcctgga gaggtgtcct tcaaggtgag 2000  
ccgcctgctc ctgaccctg accacgaaga ggacagccat gactacgacg 2050

tggcgctgct gcagctgac caccgggtgg tgcgctcggc cgccgtgagc 2100  
cccgctgccc tgcccgcgcg ctcccacttc ttgagcccc gctgcaactg 2150  
ctggattacg ggctggggcg ccttgccgca gggcggcccc atcagcaacg 2200  
ctctgcagaa agtggatgtg cagttgatcc cacaggacct gtgcagcgag 2250  
gcctatcgt accaggtgac gccacgatg ctgtgtgccg gctaccgcaa 2300  
gggcaagaag gatgcctgtc aggggtgactc aggtgggccg ctggtgtgca 2350  
aggcaactcag tggccgctgg ttctggcgg ggctggcag ctggggcctg 2400  
ggctgtggcc ggcctaacta ctccggcgtc tacaccgca tcacaggtgt 2450  
gatcagctgg atccagcaag tggtagctg aggaactgcc cccctgaaa 2500  
gcagggcca cctcctggac tcagagagcc cagggcaact gccaaagcag 2550  
gggacaagta ttctggcggg ggggtggggga gagagcaggc cctgtggtgg 2600  
caggaggtgg catctgtct cgtccctgat gtctgtcca gtgatggcag 2650  
gaggatggag aagtgccagc agctgggggt caagacgtcc cctgaggacc 2700  
caggcccaca cccagccctt ctgctccca attctctc ctccgtccc 2750  
ttctccact gctgcctaat gcaaggcagt ggctcagcag caagaatgt 2800  
ggttctacat cccgaggagt gtctgagtg cgccccactc tgtacagagg 2850  
ctgtttgggc agccttgct ccagagagca gattccagct tcggaagccc 2900  
ctggtctaac ttgggatctg ggaatggaag gtgctccat cggaggggac 2950  
cctcagagcc ctggagactg ccaggtgggc ctgctgccac tgtaagccaa 3000  
aaggtgggga agtctgact ccaggtctct tgccccacc ctgctgcca 3050  
cctgggcct cacagcccag accctactg ggaggtgagc tcagctgccc 3100  
tttgaataa agctgcctga tcaaaaaaaaa aaaaaaaaaaaa aaa 3143

<211> 802  
<212> PRT  
<213> Homo sapiens

<400> 169

Met Pro Val Ala Glu Ala Pro Gln Val Ala Gly Gly Gln Gly Asp  
1 5 10 15

Gly Gly Asp Gly Glu Glu Ala Glu Pro Glu Gly Met Phe Lys Ala  
20 25 30

Cys Glu Asp Ser Lys Arg Lys Ala Arg Gly Tyr Leu Arg Leu Val  
35 40 45

Pro Leu Phe Val Leu Leu Ala Leu Leu Val Leu Ala Ser Ala Gly  
50 55 60

Val Leu Leu Trp Tyr Phe Leu Gly Tyr Lys Ala Glu Val Met Val  
65 70 75

Ser Gln Val Tyr Ser Gly Ser Leu Arg Val Leu Asn Arg His Phe  
80 85 90

Ser Gln Asp Leu Thr Arg Arg Glu Ser Ser Ala Phe Arg Ser Glu  
95 100 105

Thr Ala Lys Ala Gln Lys Met Leu Lys Glu Leu Ile Thr Ser Thr  
110 115 120

Arg Leu Gly Thr Tyr Tyr Asn Ser Ser Ser Val Tyr Ser Phe Gly  
125 130 135

Glu Gly Pro Leu Thr Cys Phe Phe Trp Phe Ile Leu Gln Ile Pro  
140 145 150

Glu His Arg Arg Leu Met Leu Ser Pro Glu Val Val Gln Ala Leu  
155 160 165

Leu Val Glu Glu Leu Leu Ser Thr Val Asn Ser Ser Ala Ala Val  
170 175 180

Pro Tyr Arg Ala Glu Tyr Glu Val Asp Pro Glu Gly Leu Val Ile  
185 190 195

Leu Glu Ala Ser Val Lys Asp Ile Ala Ala Leu Asn Ser Thr Leu

200                    205                    210

Gly Cys Tyr Arg Tyr Ser Tyr Val Gly Gln Gly Gln Val Leu Arg  
215                    220                    225

Leu Lys Gly Pro Asp His Leu Ala Ser Ser Cys Leu Trp His Leu  
230                    235                    240

Gln Gly Pro Lys Asp Leu Met Leu Lys Leu Arg Leu Glu Trp Thr  
245                    250                    255

Leu Ala Glu Cys Arg Asp Arg Leu Ala Met Tyr Asp Val Ala Gly  
260                    265                    270

Pro Leu Glu Lys Arg Leu Ile Thr Ser Val Tyr Gly Cys Ser Arg  
275                    280                    285

Gln Glu Pro Val Val Glu Val Leu Ala Ser Gly Ala Ile Met Ala  
290                    295                    300

Val Val Trp Lys Lys Gly Leu His Ser Tyr Tyr Asp Pro Phe Val  
305                    310                    315

Leu Ser Val Gln Pro Val Val Phe Gln Ala Cys Glu Val Asn Leu  
320                    325                    330

Thr Leu Asp Asn Arg Leu Asp Ser Gln Gly Val Leu Ser Thr Pro  
335                    340                    345

Tyr Phe Pro Ser Tyr Tyr Ser Pro Gln Thr His Cys Ser Trp His  
350                    355                    360

Leu Thr Val Pro Ser Leu Asp Tyr Gly Leu Ala Leu Trp Phe Asp  
365                    370                    375

Ala Tyr Ala Leu Arg Arg Gln Lys Tyr Asp Leu Pro Cys Thr Gln  
380                    385                    390

Gly Gln Trp Thr Ile Gln Asn Arg Arg Leu Cys Gly Leu Arg Ile  
395                    400                    405

Leu Gln Pro Tyr Ala Glu Arg Ile Pro Val Val Ala Thr Ala Gly  
410                    415                    420

Ile Thr Ile Asn Phe Thr Ser Gln Ile Ser Leu Thr Gly Pro Gly



425            430            435  
Val Arg Val His Tyr Gly Leu Tyr Asn Gln Ser Asp Pro Cys Pro  
440            445            450  
Gly Glu Phe Leu Cys Ser Val Asn Gly Leu Cys Val Pro Ala Cys  
455            460            465  
Asp Gly Val Lys Asp Cys Pro Asn Gly Leu Asp Glu Arg Asn Cys  
470            475            480  
Val Cys Arg Ala Thr Phe Gln Cys Lys Glu Asp Ser Thr Cys Ile  
485            490            495  
Ser Leu Pro Lys Val Cys Asp Gly Gln Pro Asp Cys Leu Asn Gly  
500            505            510  
Ser Asp Glu Glu Gln Cys Gln Glu Gly Val Pro Cys Gly Thr Phe  
515            520            525  
Thr Phe Gln Cys Glu Asp Arg Ser Cys Val Lys Lys Pro Asn Pro  
530            535            540  
Gln Cys Asp Gly Arg Pro Asp Cys Arg Asp Gly Ser Asp Glu Glu  
545            550            555  
His Cys Asp Cys Gly Leu Gln Gly Pro Ser Ser Arg Ile Val Gly  
560            565            570  
Gly Ala Val Ser Ser Glu Gly Glu Trp Pro Trp Gln Ala Ser Leu  
575            580            585  
Gln Val Arg Gly Arg His Ile Cys Gly Gly Ala Leu Ile Ala Asp  
590            595            600  
Arg Trp Val Ile Thr Ala Ala His Cys Phe Gln Glu Asp Ser Met  
605            610            615  
Ala Ser Thr Val Leu Trp Thr Val Phe Leu Gly Lys Val Trp Gln  
620            625            630  
Asn Ser Arg Trp Pro Gly Glu Val Ser Phe Lys Val Ser Arg Leu  
635            640            645  
Leu Leu His Pro Tyr His Glu Glu Asp Ser His Asp Tyr Asp Val

650            655            660

Ala Leu Leu Gln Leu Asp His Pro Val Val Arg Ser Ala Ala Val  
665            670            675

Arg Pro Val Cys Leu Pro Ala Arg Ser His Phe Phe Glu Pro Gly  
680            685            690

Leu His Cys Trp Ile Thr Gly Trp Gly Ala Leu Arg Glu Gly Gly  
695            700            705

Pro Ile Ser Asn Ala Leu Gln Lys Val Asp Val Gln Leu Ile Pro  
710            715            720

Gln Asp Leu Cys Ser Glu Ala Tyr Arg Tyr Gln Val Thr Pro Arg  
725            730            735

Met Leu Cys Ala Gly Tyr Arg Lys Gly Lys Lys Asp Ala Cys Gln  
740            745            750

Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Ala Leu Ser Gly Arg  
755            760            765

Trp Phe Leu Ala Gly Leu Val Ser Trp Gly Leu Gly Cys Gly Arg  
770            775            780

Pro Asn Tyr Phe Gly Val Tyr Thr Arg Ile Thr Gly Val Ile Ser  
785            790            795

Trp Ile Gln Gln Val Val Thr  
800

<210> 170

<211> 1327

<212> DNA

<213> Homo sapiens

<400> 170

gcaccaggcg ccagtgagc atccagaaca ggaggctgtg tggcttgccg 50

atcctgcagc cctacgccga gaggatcccc gtggtggcca cggccgggat 100

caccatcaac ttcacctccc agatctcct caccgggccc ggtgtgcggg 150

tgcactatgg cttgtacaac cagtcggacc cctgccctgg agagttcctc 200

tgttctgtga atggactctg tgtccctgcc tgtgatgggg tcaaggactg 250  
ccccaacggc ctggatgaga gaaactcgt ttgcagagcc acattccagt 300  
gcaaagagga cagcacatgc atctcactgc ccaaggtctg tgatgggcag 350  
cctgattgtc tcaacggcag cgatgaagag cagtgccagg aaggggtgcc 400  
atgtgggaca ttcacctcc agtgtgagga cggagctgc gtgaagaagc 450  
ccaaccgca gtgtgatggg cggcccact gcagggacgg ctcggatgag 500  
gagcacttg actgtggcct ccagggcccc tccagccgca ttgttggtgg 550  
agctgtgtcc tccgaggggt agtggccatg gcaggccagc ctccaggttc 600  
ggggtcgaca catctgtggg ggggccctca tcgtgaccg ctgggtgata 650  
acagctgcc actgctcca ggaggacagc atggcctcca cgggtctgtg 700  
gaccgtgttc ctgggcaagg tgtggcagaa ctgcgctgg cctggagagg 750  
tgtcctcaa ggtgagccgc ctgctcctgc acccgtacca cgaagaggac 800  
agccatgact acgacgtggc gctgctgcag ctcgaccacc cgggtgtgcg 850  
ctcggccgcc gtgcgccccg tctgcctgcc cgcgcgctcc cacttcttcg 900  
agcccgccct gactgctgg attacgggt ggggcgcctt gcgcgagggc 950  
ggccccatca gcaacgtct gcagaaagt gatgtgcagt tgatcccaca 1000  
ggacctgtgc agcgaggcct atcgctacca ggtgacgcca cgcagtctgt 1050  
gtgccggcta ccgcaagggc aagaaggatg cctgtcaggg tgactcaggt 1100  
gtcccgctgg tgtcaaggc actcagtggc cgctggtcc tggcggggct 1150  
ggtcagctgg ggcctgggct gtggccggcc taactacttc ggcgtctaca 1200  
cccgatcac aggtgtgatc agctggatcc agcaagtgtg gacctgagga 1250  
actcccccc tgcaaagcag ggcccacctc ctggactcag agagcccagg 1300  
gcaactgcca agcaggggga caagtat 1327

<210> 171  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 171  
taacagctgc ccactgcttc cagg 24

<210> 172  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 172  
taatccagca gtgcaggccg gg 22

<210> 173  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 173  
atggcctcca cggtgctgtg gaccgtgttc ctgggcaagg tgtggcagaa 50

<210> 174  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 174  
tgcctatgca ctgaggaggc agaag 25

<210> 175

<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 175  
aggcagggac acagagtcca ttcac 25

<210> 176  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 176  
agtatgatt gccgtgcacc cagggccagt ggacgatcca gaacaggagg 50

<210> 177  
<211> 1510  
<212> DNA  
<213> Homo sapiens

<400> 177  
ggacgagggc agatctcgtt ctggggcaag ccgttgacac tcgctccctg 50  
ccaccgcccg ggctccgtgc cgccaagttt tcattttcca cttctctgc 100  
ctccagtecc ccagcccctg gccgagagaa gggcttacc ggccgggatt 150  
gctggaaca ccaagaggtg gttttgttt tttaaactt ctgtttctg 200  
ggaggggggtg tggcggggca ggatgagcaa ctccgttctt ctgctctgtt 250  
tctggagcct ctgctattgc ttgctgagg ggagccccgt accttttgg 300  
ccagagggac ggctggaaga taagctccac aaacccaaag ctacacagac 350  
tgaggtaaaa ccactgtga ggttaacct ccgcacctcc aaggaccag 400  
agcatgaagg atgctacctc tccgtcggcc acagccagcc cttagaagac 450

tgcagttca acatgacagc taaaaccttt ttcacattc acggatggac 500  
gatgagcggg atctttgaaa actggctgca caaactcgtg tcagccctgc 550  
acacaagaga gaaagacgcc aatgtagttg tggttgactg gctccccctg 600  
gcccaccagc ttacacgga tgcggtaaat aataccaggg tgggggaca 650  
cagcattgcc aggatgctcg actggctgca ggagaaggac gattttctc 700  
tcgggaatgt ccaattgatc ggctacagcc tcggagcgcg cgtggccggg 750  
tatgcaggca acttcgtgaa aggaacgggt ggccgaatca caggtttga 800  
tcctgccggg cccatgtttg aaggggccga catccacaag aggctctctc 850  
cggacgatgc agatttgtg gatgtctcc acacctacac gcgttcctc 900  
ggcttgagca ttgtattca gatgcctgtg ggccacattg acatctacc 950  
caatgggggt gactccagc caggctgtgg actcaacgat gtcttgggat 1000  
caattgcata tggaacaatc acagaggtgg taaaatgtgà gcatgagcga 1050  
gccgtccacc tctttgtga ctctctgtg aatcaggaca agccgagttt 1100  
tgccttcag tgactgact ccaatcgctt caaaaagggg atctgtctga 1150  
gctgccgcaa gaaccgtgt aatagcattg gctacaatgc caagaaaatg 1200  
aggaacaaga ggaacagcaa aatgtaccta aaaaccggg caggcatgcc 1250  
ttcagaggt aacctcagt ccctggagtg tccctgagga aggcccttaa 1300  
tacctcttc ttaataccat gctgcagagc agggcacatc ctagcccagg 1350  
agaagtggcc agcacaatcc aatcaaatcg ttgcaaatca gattactg 1400  
tgcattctct aggaaagga atctttaca aataaacagt gtggaccct 1450  
aataaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1500  
aaaaaaaaaa 1510

<211> 354  
<212> PRT  
<213> Homo sapiens

<400> 178  
Met Ser Asn Ser Val Pro Leu Leu Cys Phe Trp Ser Leu Cys Tyr  
1 5 10 15

Cys Phe Ala Ala Gly Ser Pro Val Pro Phe Gly Pro Glu Gly Arg  
20 25 30

Leu Glu Asp Lys Leu His Lys Pro Lys Ala Thr Gln Thr Glu Val  
35 40 45

Lys Pro Ser Val Arg Phe Asn Leu Arg Thr Ser Lys Asp Pro Glu  
50 55 60

His Glu Gly Cys Tyr Leu Ser Val Gly His Ser Gln Pro Leu Glu  
65 70 75

Asp Cys Ser Phe Asn Met Thr Ala Lys Thr Phe Phe Ile Ile His  
80 85 90

Gly Trp Thr Met Ser Gly Ile Phe Glu Asn Trp Leu His Lys Leu  
95 100 105

Val Ser Ala Leu His Thr Arg Glu Lys Asp Ala Asn Val Val Val  
110 115 120

Val Asp Trp Leu Pro Leu Ala His Gln Leu Tyr Thr Asp Ala Val  
125 130 135

Asn Asn Thr Arg Val Val Gly His Ser Ile Ala Arg Met Leu Asp  
140 145 150

Trp Leu Gln Glu Lys Asp Asp Phe Ser Leu Gly Asn Val His Leu  
155 160 165

Ile Gly Tyr Ser Leu Gly Ala His Val Ala Gly Tyr Ala Gly Asn  
170 175 180

Phe Val Lys Gly Thr Val Gly Arg Ile Thr Gly Leu Asp Pro Ala  
185 190 195

Gly Pro Met Phe Glu Gly Ala Asp Ile His Lys Arg Leu Ser Pro

200            205            210  
Asp Asp Ala Asp Phe Val Asp Val Leu His Thr Tyr Thr Arg Ser  
215            220            225  
Phe Gly Leu Ser Ile Gly Ile Gln Met Pro Val Gly His Ile Asp  
230            235            240  
Ile Tyr Pro Asn Gly Gly Asp Phe Gln Pro Gly Cys Gly Leu Asn  
245            250            255  
Asp Val Leu Gly Ser Ile Ala Tyr Gly Thr Ile Thr Glu Val Val  
260            265            270  
Lys Cys Glu His Glu Arg Ala Val His Leu Phe Val Asp Ser Leu  
275            280            285  
Val Asn Gln Asp Lys Pro Ser Phe Ala Phe Gln Cys Thr Asp Ser  
290            295            300  
Asn Arg Phe Lys Lys Gly Ile Cys Leu Ser Cys Arg Lys Asn Arg  
305            310            315  
Cys Asn Ser Ile Gly Tyr Asn Ala Lys Lys Met Arg Asn Lys Arg  
320            325            330  
Asn Ser Lys Met Tyr Leu Lys Thr Arg Ala Gly Met Pro Phe Arg  
335            340            345  
Gly Asn Leu Gln Ser Leu Glu Cys Pro  
350

<210> 179

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 179

gtgagcatga gcgagccgtc cac 23

<210> 180

<211> 26



<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 180  
gctattacaa cggttcttgc ggcagc 26

<210> 181  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 181  
ttgactctct ggtgaatcag gacaagccga gtttgcctt ccag 44

<210> 182  
<211> 3240  
<212> DNA  
<213> Homo sapiens

<400> 182  
cggacgcgtg ggcggacgcg tgggcctggg caagggccgg ggcgccgggc 50  
cgagccacct ctcccctcc cccgettccc tgcgcgctc cgctggctgg 100  
acgcgctgga ggagtggagc agcacccggc cggccctggg ggctgacagt 150  
cggcaaagt tggcccgaag aggaagtgt ctcaaacc cggcaggtggc 200  
gaccaggcca gaccaggggc gtcgctgcc tgcgggcggg ctgtaggcga 250  
gggcgcgcc cagtccgag acccggggct tcaggagccg gccccgggag 300  
agaagagtgc ggcggcggac ggagaaaaca actccaaagt tggcgaag 350  
caccgccct actccgggc tggccgcc tccccgccc cagccctggc 400  
atccagagta cgggtcagc ccgggcatg gagccccct ggggaggcgg 450  
caccaggag cctgggcgcc cgggctccg ccgcgacccc atcgggtaga 500

ccacagaage tccgggaccc ttccggcacc tctggacagc ccaggatgct 550  
gttggccacc ctctctctcc tctctcttgg aggcgctctg gcccatccag 600  
accggattat ttttccaaat catgcttgtg aggaccccc agcagtgctc 650  
ttagaagtgc agggcacctt acagaggccc ctggtccggg acagccgcac 700  
ctcccctgcc aactgcacct ggctcatct gggcagcaag gaacagactg 750  
tcaccatcag gtccagaag ctacacctgg cctgtggctc agagcgctta 800  
accctagct cccctctcca gccactgatc tccctgtgtg aggcacctcc 850  
cagccctctg cagctgcccc ggggcaact caccatcact tacagctatg 900  
ctggggccag agcacccatg ggccagggt tctgtctc ctacagccaa 950  
gattggctga tgtgcctgca ggaagagttt cagtgcctga accaccgctg 1000  
tgtatctgct gtccagcgt gtgatggggt tgatgcctgt ggcgatggct 1050  
ctgatgaagc aggttgacgc tcagaccct tcctggcct gacccaaga 1100  
cccgtcccct cctgccttg caatgcacc ttggaggact tctatggggt 1150  
cttctctct cctggatata cacacctagc ctacgtctcc caccaccagt 1200  
cctgccattg gctgctggac cccatgatg gccggcggct ggccgtgcgc 1250  
ttcacagccc tggacttggg ctttggagat gcagtgcctg tgtatgacgg 1300  
ccctgggccc cctgagagct cccgactact gcgtagtctc acccactca 1350  
gcaatggcaa ggctgtcact gtggagacac tgtctggcca ggctgtgtg 1400  
tctaccaca cagtgtctg gagcaatgt cgtggcttca atgccaccta 1450  
ccatgtgcgg ggctattgct tgccttggga cagaccctgt ggcttaggct 1500  
ctggcctggg agctggcgaa ggcctagggt agcgctgcta cagtgaggca 1550  
cagcgctgtg acggctcatg ggactgtgct gacggcacag atgaggagga 1600  
ctgcccaggc tgcccactg gacactccc ctgtggggct gctggcacct 1650

ctggtgccac agcctgctac ctgctgtctg accgtgcaa ctaccagact 1700  
ttctgtctg atggagcaga tgagagacgc tgcggcatt gccagcctgg 1750  
caattccga tgccgggacg agaagtgcgt gtatgagacg tgggtgtgcg 1800  
atgggcagcc agactgtgcg gacggcagtg atgagtggga ctgctcctat 1850  
gttctgcccc gcaaggtcat tacagctgca gtcattggca gcctagtgtg 1900  
cggcctgctc ctggtcatcg ccttgggctg cacctgcaag ctctatgcca 1950  
ttcgaccca ggagtacagc atctttgccc ccctctccc gatggaggct 2000  
gagattgtc agcagcagc accccctcc tacgggcagc tcattgcca 2050  
gggtgccatc ccacctgtag aagacttcc tacagagaat cctaatgata 2100  
actcagtct gggcaacctg cgttctctg tacagatctt acgccaggat 2150  
atgactccag gaggtggccc aggtgcccgc cgtcgtcagc ggggcccgtt 2200  
gatgcgacgc ctggtacgcc gtctccgccc ctggggcttg ctccctgaa 2250  
ccaacacccc ggtcgggccc tctgaggcca gatcccaggc cacaccttct 2300  
gctgctccc ttgaggcct agatggtggc acaggtccag cccgtgaggg 2350  
cggggcagtg ggtgggcaag atggggagca ggcaccccca ctgcccata 2400  
aggctcccct cccatctgt agcacgtctc cagccccac tactgtcct 2450  
gaagccccag ggccactgcc ctactgcc ctagagccat cactattgtc 2500  
tggagtggg caggccctgc gaggccgct gttgccagc ctggggcccc 2550  
caggaccaac ccggagcccc cctggacccc acacagcagt cctggccctg 2600  
gaagatgagg acgatgtct actggtgcca ctggctgagc cgggggtgtg 2650  
ggtagctgag gcagaggatg agccactgt tacctgaggg gacctggggg 2700  
ctctactgag gcctctccc tgggggtct actcatagt gcacaacctt 2750  
ttagagtg gtcagcctcc cctccaccac ttcttccct gtcctggat 2800

ttcagggact tgggggacct cccgttgacc ctatgtagct gctataaagt 2850  
 taagtgtccc tcaggcaggg agagggetca cagagtctcc tctgtacgtg 2900  
 gccatggcca gacaccccag tccttcacc accacctgct ccccacgcca 2950  
 ccaccatttg ggtggctgtt tttaaaaagt aaagtctta gaggatcata 3000  
 ggtctggaca ctccatcctt gccaaacctc tacccaaaag tggccttaag 3050  
 caccggaatg ccaattaact agagaccctc cagcccccaa ggggaggatt 3100  
 tgggcagaac ctgaggtttt gccatccaca atccctccta cagggcctgg 3150  
 ctcaaaaaa gagtgcaaca aatgcttcta ttccatagct acggcattgc 3200  
 tcagtaagtt gaggtcaaaa ataaaggaat catacatctc 3240

<210> 183  
 <211> 713  
 <212> PRT  
 <213> Homo sapiens

<400> 183  
 Met Leu Leu Ala Thr Leu Leu Leu Leu Leu Gly Gly Ala Leu  
 1            5            10            15  
  
 Ala His Pro Asp Arg Ile Ile Phe Pro Asn His Ala Cys Glu Asp  
           20            25            30  
  
 Pro Pro Ala Val Leu Leu Glu Val Gln Gly Thr Leu Gln Arg Pro  
           35            40            45  
  
 Leu Val Arg Asp Ser Arg Thr Ser Pro Ala Asn Cys Thr Trp Leu  
           50            55            60  
  
 Ile Leu Gly Ser Lys Glu Gln Thr Val Thr Ile Arg Phe Gln Lys  
           65            70            75  
  
 Leu His Leu Ala Cys Gly Ser Glu Arg Leu Thr Leu Arg Ser Pro  
           80            85            90  
  
 Leu Gln Pro Leu Ile Ser Leu Cys Glu Ala Pro Pro Ser Pro Leu  
           95            100            105

Gln Leu Pro Gly Gly Asn Val Thr Ile Thr Tyr Ser Tyr Ala Gly  
110 115 120

Ala Arg Ala Pro Met Gly Gln Gly Phe Leu Leu Ser Tyr Ser Gln  
125 130 135

Asp Trp Leu Met Cys Leu Gln Glu Glu Phe Gln Cys Leu Asn His  
140 145 150

Arg Cys Val Ser Ala Val Gln Arg Cys Asp Gly Val Asp Ala Cys  
155 160 165

Gly Asp Gly Ser Asp Glu Ala Gly Cys Ser Ser Asp Pro Phe Pro  
170 175 180

Gly Leu Thr Pro Arg Pro Val Pro Ser Leu Pro Cys Asn Val Thr  
185 190 195

Leu Glu Asp Phe Tyr Gly Val Phe Ser Ser Pro Gly Tyr Thr His  
200 205 210

Leu Ala Ser Val Ser His Pro Gln Ser Cys His Trp Leu Leu Asp  
215 220 225

Pro His Asp Gly Arg Arg Leu Ala Val Arg Phe Thr Ala Leu Asp  
230 235 240

Leu Gly Phe Gly Asp Ala Val His Val Tyr Asp Gly Pro Gly Pro  
245 250 255

Pro Glu Ser Ser Arg Leu Leu Arg Ser Leu Thr His Phe Ser Asn  
260 265 270

Gly Lys Ala Val Thr Val Glu Thr Leu Ser Gly Gln Ala Val Val  
275 280 285

Ser Tyr His Thr Val Ala Trp Ser Asn Gly Arg Gly Phe Asn Ala  
290 295 300

Thr Tyr His Val Arg Gly Tyr Cys Leu Pro Trp Asp Arg Pro Cys  
305 310 315

Gly Leu Gly Ser Gly Leu Gly Ala Gly Glu Gly Leu Gly Glu Arg  
320 325 330

Cys Tyr Ser Glu Ala Gln Arg Cys Asp Gly Ser Trp Asp Cys Ala  
335 340 345

Asp Gly Thr Asp Glu Glu Asp Cys Pro Gly Cys Pro Pro Gly His  
350 355 360

Phe Pro Cys Gly Ala Ala Gly Thr Ser Gly Ala Thr Ala Cys Tyr  
365 370 375

Leu Pro Ala Asp Arg Cys Asn Tyr Gln Thr Phe Cys Ala Asp Gly  
380 385 390

Ala Asp Glu Arg Arg Cys Arg His Cys Gln Pro Gly Asn Phe Arg  
395 400 405

Cys Arg Asp Glu Lys Cys Val Tyr Glu Thr Trp Val Cys Asp Gly  
410 415 420

Gln Pro Asp Cys Ala Asp Gly Ser Asp Glu Trp Asp Cys Ser Tyr  
425 430 435

Val Leu Pro Arg Lys Val Ile Thr Ala Ala Val Ile Gly Ser Leu  
440 445 450

Val Cys Gly Leu Leu Leu Val Ile Ala Leu Gly Cys Thr Cys Lys  
455 460 465

Leu Tyr Ala Ile Arg Thr Gln Glu Tyr Ser Ile Phe Ala Pro Leu  
470 475 480

Ser Arg Met Glu Ala Glu Ile Val Gln Gln Gln Ala Pro Pro Ser  
485 490 495

Tyr Gly Gln Leu Ile Ala Gln Gly Ala Ile Pro Pro Val Glu Asp  
500 505 510

Phe Pro Thr Glu Asn Pro Asn Asp Asn Ser Val Leu Gly Asn Leu  
515 520 525

Arg Ser Leu Leu Gln Ile Leu Arg Gln Asp Met Thr Pro Gly Gly  
530 535 540

Gly Pro Gly Ala Arg Arg Arg Gln Arg Gly Arg Leu Met Arg Arg  
545 550 555

Leu Val Arg Arg Leu Arg Arg Trp Gly Leu Leu Pro Arg Thr Asn  
560 565 570

Thr Pro Ala Arg Ala Ser Glu Ala Arg Ser Gln Val Thr Pro Ser  
575 580 585

Ala Ala Pro Leu Glu Ala Leu Asp Gly Gly Thr Gly Pro Ala Arg  
590 595 600

Glu Gly Gly Ala Val Gly Gly Gln Asp Gly Glu Gln Ala Pro Pro  
605 610 615

Leu Pro Ile Lys Ala Pro Leu Pro Ser Ala Ser Thr Ser Pro Ala  
620 625 630

Pro Thr Thr Val Pro Glu Ala Pro Gly Pro Leu Pro Ser Leu Pro  
635 640 645

Leu Glu Pro Ser Leu Leu Ser Gly Val Val Gln Ala Leu Arg Gly  
650 655 660

Arg Leu Leu Pro Ser Leu Gly Pro Pro Gly Pro Thr Arg Ser Pro  
665 670 675

Pro Gly Pro His Thr Ala Val Leu Ala Leu Glu Asp Glu Asp Asp  
680 685 690

Val Leu Leu Val Pro Leu Ala Glu Pro Gly Val Trp Val Ala Glu  
695 700 705

Ala Glu Asp Glu Pro Leu Leu Thr  
710

<210> 184

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 184

ggctgcact gtggagacac 20

<210> 185

<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 185  
gcaaggtcat tacagctg 18

<210> 186  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 186  
agaacatagg agcagtcca ctc 23

<210> 187  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 187  
tgcttgc tgcacaatct cag 23

<210> 188  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 188  
ggctattgct tgcttggga cagaccctgt ggcttaggct ctggc 45

<210> 189  
<211> 663



<212> DNA

<213> Homo sapiens

<400> 189

cgagctgggc gagaagtagg ggagggcggt gctccgccgc ggtggcggtt 50

gctatcgctt cgcagaacct actcaggcag ccagctgaga agagttgagg 100

gaaagtgctg ctgctgggtc tgcagacgcg atggataacg tgcagccgaa 150

aataaaacat cgccccctct gcttcagtgt gaaaggccac gtgaagatgc 200

tgcggctggc actaactgtg acatctatga cctttttat catcgcaaa 250

gcccctgaac catatattgt tactactgga ttggaagta ccgttatctt 300

attttcata cttttatag tactcagact tgatcgatta atgaagtgtt 350

tattttggcc tttgctgat attatcaact cactgtaac aacagtattc 400

atgctcatcg tatctgtgtt ggcactgata ccagaaacca caacattgac 450

agttgggtgga ggggtgtttg cacttggac agcagtatgc tgtcttgccg 500

acggggcctt tatttaccgg aagcttctgt tcaatcccag cggtccttac 550

cagaaaaagc ctgtgcatga aaaaaagaa gttttgtaat tttatattac 600

ttttagttt gatactaagt attaaacata tttctgtatt ctccaaaaa 650

aaaaaaaaa aaa 663

<210> 190

<211> 152

<212> PRT

<213> Homo sapiens

<400> 190

Met Asp Asn Val Gln Pro Lys Ile Lys His Arg Pro Phe Cys Phe

1 5 10 15

Ser Val Lys Gly His Val Lys Met Leu Arg Leu Ala Leu Thr Val

20 25 30

Thr Ser Met Thr Phe Phe Ile Ile Ala Gln Ala Pro Glu Pro Tyr

35            40            45

Ile Val Ile Thr Gly Phe Glu Val Thr Val Ile Leu Phe Phe Ile  
50            55            60

Leu Leu Tyr Val Leu Arg Leu Asp Arg Leu Met Lys Trp Leu Phe  
65            70            75

Trp Pro Leu Leu Asp Ile Ile Asn Ser Leu Val Thr Thr Val Phe  
80            85            90

Met Leu Ile Val Ser Val Leu Ala Leu Ile Pro Glu Thr Thr Thr  
95            100            105

Leu Thr Val Gly Gly Gly Val Phe Ala Leu Val Thr Ala Val Cys  
110            115            120

Cys Leu Ala Asp Gly Ala Leu Ile Tyr Arg Lys Leu Leu Phe Asn  
125            130            135

Pro Ser Gly Pro Tyr Gln Lys Lys Pro Val His Glu Lys Lys Glu  
140            145            150

Val Leu

<210> 191

<211> 495

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 78, 212, 234, 487

<223> unknown base

<400> 191

gggcgagaag taggggaggg cgtgtccgc cgcggtggcg gttgctatcg 50

tttgcagaa cctactcagg cagccagntg agaagagttg agggaaagtg 100

ctgctgctgg gtctgcagac gcatggata acgtgcagcc gaaaataaaa 150

catgccccct tctgcttcag tgtgaaaggc cacgtgaaga tgctgcggct 200

ggcactaact gngacatcta tgacctttt tatnatcgca caagcccctg 250

aaccatata tgttactact ggatttgaag tcaccgttat cttattttc 300

atactttat atgtactcag acttgatcga ttaatgaagt ggttatttg 350

gcctttgctt gatattatca actcactggt aacaacagta ttcagtctca 400

tcgtatctgt gttggcactg ataccagaaa ccacaacatt gacagttggt 450

ggaggggtgt ttgcactgt gacagcagta tgctgtnttg cgcac 495

<210> 192

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 192

cgttttgcag aacctactca ggcag 25

<210> 193

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 193

cctccaccaa ctgtcaatgt tgtgg 25

<210> 194

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 194

aaagtgcgcg tgctgggtct gcagacgcga tggataacgt 40

<210> 195  
<211> 1879  
<212> DNA  
<213> Homo sapien

<400> 195  
cagccccgcg cgccggccga gtcgctgagc cgcggtgcc ggacgggacg 50  
ggaccggcta ggctgggagc gcccccgagg ccccgccgtg ggcatgggag 100  
cactggcccc ggcgctgctg ctgcctctgc tggcccagtg gctcctgcgc 150  
gcccggccgg agctggcccc cgcgcccttc acgctgcccc tccgggtggc 200  
cgcgggcacg aaccgcgtag ttgcggccac cccgggaccc gggaccctg 250  
ccgagcgcca cgccgacggc ttggcgctcg ccctggagcc tgcctggcg 300  
tccccgcgg gcggcgcaa ctcttgacc atggtagaca acctgcaggg 350  
ggactctggc cgcggtact acctggagat gctgatcggg accccccgc 400  
agaagctaca gattctggt gacactggaa gcagtaact tgcctggca 450  
ggaacccccg actcctacat agacacgtac ttgacacag agaggtctag 500  
cacataccgc tccaagggtc ttgacgtcac agtgaagtac acacaaggaa 550  
gctggacggg ctctgtggg gaagacctg tcaccatccc caaaggcttc 600  
aatacttctt ttctgtcaa cattgccact attttgaat cagagaattt 650  
cttttgctt gggattaaat ggaatggaat acttggccta gcttatgcca 700  
cacttgccaa gccatcaagt tctctggaga cttctctga ctccctggtg 750  
acacaagcaa acatcccaa cgttttctcc atgcagatgt gtggagccgg 800  
cttggccgtt gctggatctg ggaccaacgg aggtagtctt gtcttgggtg 850  
gaattgaacc aagttgtat aaaggagaca tctgttatac ccctattaag 900  
gaagagtggg actaccagat agaaattctg aaattggaaa ttggaggcca 950  
aagccttaat ctgactgca gagagtataa cgagacaag gccatcgtgg 1000

acagtggcac cacgctgctg cgctgcccc agaaggtgtt tgatgcggtg 1050  
gtggaagctg tggcccgcgc atctctgatt ccagaattct ctgatggttt 1100  
ctggactggg tcccagctgg cgtgctggac gaattcggaa acaccttgg 1150  
cttactccc taaaatctcc atctacctga gagacgagaa ctccagcagg 1200  
tcattccgta tcacaatct gcctcagctt tacattcagc ccatgatggg 1250  
ggccggcctg aattatgaat gttaccgatt cggcatttcc ccatccacaa 1300  
atgcgctggt gatcgggtcc acggtgatgg agggcttcta cgtcatttc 1350  
gacagagccc agaagagggt gggcttcgca gcgagcccct gtcagaaat 1400  
tgcaggtgct gcagtgtctg aaatttccgg gcctttctca acagaggatg 1450  
tagccagcaa ctgtgtcccc gctcagctt tgagcgagcc cattttgtgg 1500  
attgttctt atgcgctcat gagcgtctgt ggagccatcc tcctgttctt 1550  
aatcgtcctg ctgctgtgc cgttccgggtg tcagcgtcgc ccccgtagcc 1600  
ctgaggctgt caatgatgag tcctctctgg tcagacatcg ctggaaatga 1650  
atagccaggc ctgacctcaa gcaacatga actcagctat taagaaaatc 1700  
acatttccag ggcagcagcc gggatcgatg gtggcgcttt ctctgtgcc 1750  
cacccttctt caatctctgt tctgtccca gatgccttct agattcactg 1800  
tcttttgatt ctgtatttc aagcttcaa atcctcccta cttccaagaa 1850  
aaataattaa aaaaaaact tcattctaa 1879

<210> 196

<211> 518

<212> PRT

<213> Homo sapien

<400> 196

Met Gly Ala Leu Ala Arg Ala Leu Leu Leu Pro Leu Leu Ala Gln

1

5

10

15

Trp Leu Leu Arg Ala Ala Pro Glu Leu Ala Pro Ala Pro Phe Thr  
20 25 30

Leu Pro Leu Arg Val Ala Ala Ala Thr Asn Arg Val Val Ala Pro  
35 40 45

Thr Pro Gly Pro Gly Thr Pro Ala Glu Arg His Ala Asp Gly Leu  
50 55 60

Ala Leu Ala Leu Glu Pro Ala Leu Ala Ser Pro Ala Gly Ala Ala  
65 70 75

Asn Phe Leu Ala Met Val Asp Asn Leu Gln Gly Asp Ser Gly Arg  
80 85 90

Gly Tyr Tyr Leu Glu Met Leu Ile Gly Thr Pro Pro Gln Lys Leu  
95 100 105

Gln Ile Leu Val Asp Thr Gly Ser Ser Asn Phe Ala Val Ala Gly  
110 115 120

Thr Pro His Ser Tyr Ile Asp Thr Tyr Phe Asp Thr Glu Arg Ser  
125 130 135

Ser Thr Tyr Arg Ser Lys Gly Phe Asp Val Thr Val Lys Tyr Thr  
140 145 150

Gln Gly Ser Trp Thr Gly Phe Val Gly Glu Asp Leu Val Thr Ile  
155 160 165

Pro Lys Gly Phe Asn Thr Ser Phe Leu Val Asn Ile Ala Thr Ile  
170 175 180

Phe Glu Ser Glu Asn Phe Phe Leu Pro Gly Ile Lys Trp Asn Gly  
185 190 195

Ile Leu Gly Leu Ala Tyr Ala Thr Leu Ala Lys Pro Ser Ser Ser  
200 205 210

Leu Glu Thr Phe Phe Asp Ser Leu Val Thr Gln Ala Asn Ile Pro  
215 220 225

Asn Val Phe Ser Met Gln Met Cys Gly Ala Gly Leu Pro Val Ala  
230 235 240

Gly Ser Gly Thr Asn Gly Gly Ser Leu Val Leu Gly Gly Ile Glu  
245 250 255

Pro Ser Leu Tyr Lys Gly Asp Ile Trp Tyr Thr Pro Ile Lys Glu  
260 265 270

Glu Trp Tyr Tyr Gln Ile Glu Ile Leu Lys Leu Glu Ile Gly Gly  
275 280 285

Gln Ser Leu Asn Leu Asp Cys Arg Glu Tyr Asn Ala Asp Lys Ala  
290 295 300

Ile Val Asp Ser Gly Thr Thr Leu Leu Arg Leu Pro Gln Lys Val  
305 310 315

Phe Asp Ala Val Val Glu Ala Val Ala Arg Ala Ser Leu Ile Pro  
320 325 330

Glu Phe Ser Asp Gly Phe Trp Thr Gly Ser Gln Leu Ala Cys Trp  
335 340 345

Thr Asn Ser Glu Thr Pro Trp Ser Tyr Phe Pro Lys Ile Ser Ile  
350 355 360

Tyr Leu Arg Asp Glu Asn Ser Ser Arg Ser Phe Arg Ile Thr Ile  
365 370 375

Leu Pro Gln Leu Tyr Ile Gln Pro Met Met Gly Ala Gly Leu Asn  
380 385 390

Tyr Glu Cys Tyr Arg Phe Gly Ile Ser Pro Ser Thr Asn Ala Leu  
395 400 405

Val Ile Gly Ala Thr Val Met Glu Gly Phe Tyr Val Ile Phe Asp  
410 415 420

Arg Ala Gln Lys Arg Val Gly Phe Ala Ala Ser Pro Cys Ala Glu  
425 430 435

Ile Ala Gly Ala Ala Val Ser Glu Ile Ser Gly Pro Phe Ser Thr  
440 445 450

Glu Asp Val Ala Ser Asn Cys Val Pro Ala Gln Ser Leu Ser Glu  
455 460 465

Pro Ile Leu Trp Ile Val Ser Tyr Ala Leu Met Ser Val Cys Gly  
470 475 480

Ala Ile Leu Leu Val Leu Ile Val Leu Leu Leu Leu Pro Phe Arg  
485 490 495

Cys Gln Arg Arg Pro Arg Asp Pro Glu Val Val Asn Asp Glu Ser  
500 505 510

Ser Leu Val Arg His Arg Trp Lys  
515

<210> 197

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 197

cgcagaagct acagattctc g 21

<210> 198

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 198

ggaaattgga ggccaaagc 19

<210> 199

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 199

ggatgtagcc agcaactgtg 20



<210> 200  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 200  
gccttggtc gttctctc 19

<210> 201  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 201  
ggtcctgtgc ctggatgg 18

<210> 202  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 202  
gacaagacta cctccgttgg tc 22

<210> 203  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 203  
tgatgcacag ttcagcacct gttg 24

<210> 204

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 204

cgctccaag gctttgacgt cacagtgaag tacacacaag gaagctg 47

<210> 205

<211> 1939

<212> DNA

<213> Homo sapiens

<400> 205

cgctccgcc ttcggaggct gacgcgcccg ggcgccgttc caggcctgtg 50

cagggcggat cggcagccgc ctggcggcga tccagggcgg tgcggggcct 100

gggcgggagc cgggaggcgc ggccggcatg gaggcgctgc tgctgggcgc 150

ggggttgctg ctgggcgctt acgtgctgt ctactacaac ctggtgaag 200

ccccgccgtg cggcggcatg ggcaacctgc ggggccgcac ggccgtggtc 250

acgggcgcca acagcggcat cggaaagatg acggcgctgg agctggcgcg 300

ccggggagcg cgcgtggtgc tggcctgccg cagccaggag cgcggggagg 350

cggctgcctt cgacctccgc caggagagtg ggaacaatga ggtcatcttc 400

atggccttgg acttgccag tctggcctcg gtgcgggcct ttgccactgc 450

ctttctgagc tctgagccac ggttgacat cctcatccac aatgccgta 500

tcagttcctg tggccggacc cgtgaggcgt ttaacctgct gcttcgggtg 550

aaccatatcg gtccctttct gctgacacat ctgctgctgc cttgcctgaa 600

ggcatgtgcc ctagccgcg tggtggtggt agcctcagct gccactgtc 650

ggggacgtct tgacttcaaa cgcttgacc gcccagtgtt gggctggcgg 700

caggagctgc gggcatatgc tgacactaag ctggctaag tactgtttgc 750

ccgggagctc gccaaccagc ttgaggccac tggcgtcacc tgctatgcag 800  
cccacccagg gcctgtgaac tcggagctgt tcctgcgcca tgttcctgga 850  
tggctgcgcc cacttttgcg cccattggct tggctggtgc tccgggcacc 900  
aagagggggt gccagacac ccctgtattg tgctctacaa gagggcatcg 950  
agcccctcag tgggagatat ttgccaact gccatgtgga agaggtgcct 1000  
ccagctgccc gagacgaccg ggcagcccat cggtatggg aggccagcaa 1050  
gaggctggca gggcttgggc ctggggagga tgctgaacct gatgaagacc 1100  
cccagtctga ggactcagag gcccacatt ctctaagcac cccccacct 1150  
gaggagccca cagtttctca acctacccc agccctcaga gtcaccaga 1200  
ttgtctaag atgacgcacc gaattcaggc taaagttgag cctgagatcc 1250  
agctctccta acctcaggc caggatgctt gccatggcac tcatggctc 1300  
ttgaaaacct cggatgtgtg tgaggccatg ccctggacac tgacggggtt 1350  
gtgatcttga cctccgtggt tactttctgg ggccccaagc tgtgccctgg 1400  
acatctcttt tcctggttga aggaataatg ggtgattatt tcttctgag 1450  
agtgacagta accccagatg gagagatagg ggtatgctag aactgtgct 1500  
tctcggaat ttgatgtag tattttcagg cccaccctt attgattctg 1550  
atcagctctg gagcagagge agggagtgtg caatgtgatg cactgccaac 1600  
attgagaatt agtgaactga tcctttgca accgtctagc taggtagta 1650  
aattaccccc atgtaatga agcggaatta ggctcccag ctaagggact 1700  
cgcttagggt ctacagtga gtaggaggag ggcctgggat ctgaaccaa 1750  
gggtctgagg ccagggccga ctgccgtaag atgggtgctg agaagtgagt 1800  
cagggcaggg cagctggtat cgaggtgccc catgggagta aggggacgcc 1850  
ttccgggagg atgcagggt ggggtcatct gtatctgaag cccctcgaa 1900

taaagcgcgt tgaccgcaa aaaaaaaaaa aaaaaaaaaa 1939

<210> 206

<211> 377

<212> PRT

<213> Homo sapiens

<400> 206

Met Glu Ala Leu Leu Leu Gly Ala Gly Leu Leu Leu Gly Ala Tyr  
1 5 10 15

Val Leu Val Tyr Tyr Asn Leu Val Lys Ala Pro Pro Cys Gly Gly  
20 25 30

Met Gly Asn Leu Arg Gly Arg Thr Ala Val Val Thr Gly Ala Asn  
35 40 45

Ser Gly Ile Gly Lys Met Thr Ala Leu Glu Leu Ala Arg Arg Gly  
50 55 60

Ala Arg Val Val Leu Ala Cys Arg Ser Gln Glu Arg Gly Glu Ala  
65 70 75

Ala Ala Phe Asp Leu Arg Gln Glu Ser Gly Asn Asn Glu Val Ile  
80 85 90

Phe Met Ala Leu Asp Leu Ala Ser Leu Ala Ser Val Arg Ala Phe  
95 100 105

Ala Thr Ala Phe Leu Ser Ser Glu Pro Arg Leu Asp Ile Leu Ile  
110 115 120

His Asn Ala Gly Ile Ser Ser Cys Gly Arg Thr Arg Glu Ala Phe  
125 130 135

Asn Leu Leu Leu Arg Val Asn His Ile Gly Pro Phe Leu Leu Thr  
140 145 150

His Leu Leu Leu Pro Cys Leu Lys Ala Cys Ala Pro Ser Arg Val  
155 160 165

Val Val Val Ala Ser Ala Ala His Cys Arg Gly Arg Leu Asp Phe  
170 175 180

Lys Arg Leu Asp Arg Pro Val Val Gly Trp Arg Gln Glu Leu Arg

185	190	195
Ala Tyr Ala Asp Thr Lys Leu Ala Asn Val Leu Phe Ala Arg Glu		
200	205	210
Leu Ala Asn Gln Leu Glu Ala Thr Gly Val Thr Cys Tyr Ala Ala		
215	220	225
His Pro Gly Pro Val Asn Ser Glu Leu Phe Leu Arg His Val Pro		
230	235	240
Gly Trp Leu Arg Pro Leu Leu Arg Pro Leu Ala Trp Leu Val Leu		
245	250	255
Arg Ala Pro Arg Gly Gly Ala Gln Thr Pro Leu Tyr Cys Ala Leu		
260	265	270
Gln Glu Gly Ile Glu Pro Leu Ser Gly Arg Tyr Phe Ala Asn Cys		
275	280	285
His Val Glu Glu Val Pro Pro Ala Ala Arg Asp Asp Arg Ala Ala		
290	295	300
His Arg Leu Trp Glu Ala Ser Lys Arg Leu Ala Gly Leu Gly Pro		
305	310	315
Gly Glu Asp Ala Glu Pro Asp Glu Asp Pro Gln Ser Glu Asp Ser		
320	325	330
Glu Ala Pro Ser Ser Leu Ser Thr Pro His Pro Glu Glu Pro Thr		
335	340	345
Val Ser Gln Pro Tyr Pro Ser Pro Gln Ser Ser Pro Asp Leu Ser		
350	355	360
Lys Met Thr His Arg Ile Gln Ala Lys Val Glu Pro Glu Ile Gln		
365	370	375

Leu Ser

<210> 207

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 207

cttcatggcc ttgacttgg ccag 24

<210> 208

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 208

acgccagtgg cctcaagctg gttg 24

<210> 209

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 209

ctttctgagc tctgagccac ggttggacat cctcatccac aatgc 45

<210> 210

<211> 3716

<212> DNA

<213> Homo sapiens

<400> 210

ggaggagaca gcctcctggg gggcaggggt tcctgcctc tgctgctcct 50

gctcatcatg ggaggcatgg ctcaggactc cccgccccag atcctagtcc 100

acccccagga ccagctgttc cagggccctg gcctgccag gatgagctgc 150

caagcctcag gccagccacc tcccaccatc cgctggttgc tgaatgggca 200

gcccctgagc atggtgcccc cagaccaca ccacctcctg cctgatggga 250

cccttctgct gctacagccc cctgcccggg gacatgccca cgatggccag 300

gcctgtcca cagacctggg tgtctacaca tgtgaggcca gcaaccggct 350  
tggcacggca gtcagcagag gcgctcggct gtctgtggct gtctccggg 400  
aggattcca gatccagcct cgggacatgg tggctgtggt gggtagcag 450  
tttactctgg aatgtgggcc gccctggggc cacccagagc ccacagtctc 500  
atggtggaaa gatgggaaac ccctggccct ccagcccgga aggcacacag 550  
tgtccggggg gtcctgctg atggcaagag cagagaagag tgacgaaggg 600  
acctacatgt gtgtggccac caacagcga ggacataggg agagccgcgc 650  
agcccgggtt tccatccagg agcccagga ctacacggag cctgtggagc 700  
ttctggctgt gcgaattcag ctggaaaatg tgacactgct gaaccggat 750  
cctgcagagg gccccaagcc tagaccggcg gtgtggctca gctggaaggt 800  
cagtggccct gctgcgctg cccaatctta cacggcctg tcaggacct 850  
agactgccc gggaggccag ggagctcctg gggcagagga gctgctggcc 900  
ggctggcaga gcgcagagct tggaggcctc cactggggcc aagactacga 950  
gttcaaagt agaccatcct ctggccgggc tcgaggccct gacagcaacg 1000  
tgctgctct gaggctccg gaaaaagtgc ccagtgccc acctcaggaa 1050  
gtgactctaa agcctggcaa tggcactgtc tttgtgagct gggcccacc 1100  
acctgctgaa aaccacaatg gcatcatccg tggctaccag gtctggagcc 1150  
tgggcaacac atcactgcca ccagccaact ggactgtagt tggtagcag 1200  
accagctgg aaatgccac ccatatgcca ggctctact gcgtgcaagt 1250  
ggctgcagtc actggtgctg gagctgggga gccagtaga cctgtctgcc 1300  
tcctttaga gcaggccatg gagcgagcca cccaagaacc cagtgagcat 1350  
ggccttga ccttgagca gctgagggt acctgaagc ggctgaggt 1400  
cattgccacc tgcggtgtg cactctggct gctgctctg ggcaccggc 1450

tgtgatcca ccgccggcgc cgagctaggg tgcacctggg cccaggtctg 1500  
tacagatata ccagtgagga tgccatccta aaacacagga tggatcacag 1550  
tgactcccag tggttggcag acacttggcg ttccacctct ggctctcggg 1600  
acctgagcag cagcagcagc ctcagcagtc ggctgggggc ggatgcccgg 1650  
gaccactag actgtcgtcg ctcttgcctc tctgggact cccgaagccc 1700  
cggcgtgccc ctgcttccag acaccagcac ttttatggc tcctcatcg 1750  
ctgagctgcc ctccagtacc ccagccaggc caagtcccca ggcccagct 1800  
gtcaggcgcc tcccaccca gctggcccag ctctccagcc cctgttccag 1850  
ctcagacagc ctctgcagcc gcaggggact ctcttccc cgcttctc 1900  
tggcccctgc agaggcttg aaggccaaa agaagcagga gctgcagcat 1950  
gccaacagtt ccccactgct ccggggcagc cactccttgg agctccgggc 2000  
ctgtgagta ggaaatagag gttccaagaa ctttccaa agcccaggag 2050  
ctgtgcccc agctctggtt gcctggcggg ccctgggacc gaaactctc 2100  
agctcctcaa atgagctggt tactcgtcat ctccctccag caccctctt 2150  
tcctcatgaa actccccaa ctcagagtca acagaccag cctccggtgg 2200  
caccacagc tcctctctc atctgctgc cagcagcccc catccccatc 2250  
cttagcccct gcagtcccc tagccccag gccttctccc tctctgccc 2300  
cagcccagct tccagtcgcc tgtccagctc ctactgtca tcctggggg 2350  
aggatcaaga cagcgtgctg acccctgagg aggtagcct gtgcttgaa 2400  
ctcagtgagg gtgaggagac tcccaggaac agcgtctc ccatgccaag 2450  
ggctcctca cccccacca cctatgggta catcagcgtc ccaacagcct 2500  
cagagttcac ggacatgggc aggactggag gaggggtggg gccaagggg 2550  
ggagtcttc tgtgccacc tcggcctgc ctaccccc ccccagcga 2600



gggctccta gccaatggtt ggggctcagc ctctgaggac aatgccgcca 2650  
gcgccagagc cagccttgtc agctcctccg atggctcctt cctcgtgat 2700  
gctcactttg cccgggccct ggcagtggct gtggatagct ttggttcgg 2750  
tctagagccc agggaggcag actgcgtctt catagatgcc tcatcacctc 2800  
cctccccacg ggatgagatc ttctgacct ccaacctctc cctgccctg 2850  
tgggagtgga gccagactg gttggaagac atggagtca gccacacca 2900  
gggctggga aggggatgc ctccctggcc ccctgactct cagatcttt 2950  
cccagagaag tcagctccac tgtcgtatgc ccaaggctgg tgcttctct 3000  
gtagattact cctgaacctg gtcctgaga ctccagac gggaatcaga 3050  
accactctc ctgtccacc acaagacctg ggctgtggtg tgtgggtctt 3100  
ggcctgtgtt tctctgcagc tgggtccac ctccaagc ctccagagag 3150  
ttctccctcc acgatttga aaacaaatga aaacaaaatt agagcaaagc 3200  
tgacctggag ccctcaggga gcaaaacatc atctccacct gactcctagc 3250  
cactgettcc tctctgtgc catcactcc caccaccagg ttgtttggc 3300  
ctgaggagca gccctgctg ctgctctcc cccaccattt ggatcacag 3350  
aagtggagga gccagagtg cttttgtgga ggacagcagt ggctgctggg 3400  
agagggctgt ggaggaagga gcttctcgga gcccccttc agccttacct 3450  
gggccctcc tctagagaag agctcaactc tctccaacc tcaccatgga 3500  
aagaaaataa ttatgaatgc cactgaggca ctgaggcct acctatgcc 3550  
aaacaaaggg ttcaaggctg ggtctagcga ggatgctgaa ggaaggagg 3600  
tatgagaccg taggtcaaaa gcaccatcct cgtactgttg tcactatgag 3650  
cttaagaaat ttgatccat aaaatggtaa aaaaaaaaaa aaaaaaaaaa 3700  
aaaaaaaaa aaaaaa 3716

<210> 211  
<211> 985  
<212> PRT  
<213> Homo sapiens

<400> 211  
Met Gly Gly Met Ala Gln Asp Ser Pro Pro Gln Ile Leu Val His  
1 5 10 15

Pro Gln Asp Gln Leu Phe Gln Gly Pro Gly Pro Ala Arg Met Ser  
20 25 30

Cys Gln Ala Ser Gly Gln Pro Pro Pro Thr Ile Arg Trp Leu Leu  
35 40 45

Asn Gly Gln Pro Leu Ser Met Val Pro Pro Asp Pro His His Leu  
50 55 60

Leu Pro Asp Gly Thr Leu Leu Leu Leu Gln Pro Pro Ala Arg Gly  
65 70 75

His Ala His Asp Gly Gln Ala Leu Ser Thr Asp Leu Gly Val Tyr  
80 85 90

Thr Cys Glu Ala Ser Asn Arg Leu Gly Thr Ala Val Ser Arg Gly  
95 100 105

Ala Arg Leu Ser Val Ala Val Leu Arg Glu Asp Phe Gln Ile Gln  
110 115 120

Pro Arg Asp Met Val Ala Val Val Gly Glu Gln Phe Thr Leu Glu  
125 130 135

Cys Gly Pro Pro Trp Gly His Pro Glu Pro Thr Val Ser Trp Trp  
140 145 150

Lys Asp Gly Lys Pro Leu Ala Leu Gln Pro Gly Arg His Thr Val  
155 160 165

Ser Gly Gly Ser Leu Leu Met Ala Arg Ala Glu Lys Ser Asp Glu  
170 175 180

Gly Thr Tyr Met Cys Val Ala Thr Asn Ser Ala Gly His Arg Glu  
185 190 195

Ser Arg Ala Ala Arg Val Ser Ile Gln Glu Pro Gln Asp Tyr Thr  
200 205 210

Glu Pro Val Glu Leu Leu Ala Val Arg Ile Gln Leu Glu Asn Val  
215 220 225

Thr Leu Leu Asn Pro Asp Pro Ala Glu Gly Pro Lys Pro Arg Pro  
230 235 240

Ala Val Trp Leu Ser Trp Lys Val Ser Gly Pro Ala Ala Pro Ala  
245 250 255

Gln Ser Tyr Thr Ala Leu Phe Arg Thr Gln Thr Ala Pro Gly Gly  
260 265 270

Gln Gly Ala Pro Trp Ala Glu Glu Leu Leu Ala Gly Trp Gln Ser  
275 280 285

Ala Glu Leu Gly Gly Leu His Trp Gly Gln Asp Tyr Glu Phe Lys  
290 295 300

Val Arg Pro Ser Ser Gly Arg Ala Arg Gly Pro Asp Ser Asn Val  
305 310 315

Leu Leu Leu Arg Leu Pro Glu Lys Val Pro Ser Ala Pro Pro Gln  
320 325 330

Glu Val Thr Leu Lys Pro Gly Asn Gly Thr Val Phe Val Ser Trp  
335 340 345

Val Pro Pro Pro Ala Glu Asn His Asn Gly Ile Ile Arg Gly Tyr  
350 355 360

Gln Val Trp Ser Leu Gly Asn Thr Ser Leu Pro Pro Ala Asn Trp  
365 370 375

Thr Val Val Gly Glu Gln Thr Gln Leu Glu Ile Ala Thr His Met  
380 385 390

Pro Gly Ser Tyr Cys Val Gln Val Ala Ala Val Thr Gly Ala Gly  
395 400 405

Ala Gly Glu Pro Ser Arg Pro Val Cys Leu Leu Leu Glu Gln Ala  
410 415 420

Met Glu Arg Ala Thr Gln Glu Pro Ser Glu His Gly Pro Trp Thr  
425 430 435

Leu Glu Gln Leu Arg Ala Thr Leu Lys Arg Pro Glu Val Ile Ala  
440 445 450

Thr Cys Gly Val Ala Leu Trp Leu Leu Leu Leu Gly Thr Ala Val  
455 460 465

Cys Ile His Arg Arg Arg Arg Ala Arg Val His Leu Gly Pro Gly  
470 475 480

Leu Tyr Arg Tyr Thr Ser Glu Asp Ala Ile Leu Lys His Arg Met  
485 490 495

Asp His Ser Asp Ser Gln Trp Leu Ala Asp Thr Trp Arg Ser Thr  
500 505 510

Ser Gly Ser Arg Asp Leu Ser Ser Ser Ser Ser Leu Ser Ser Arg  
515 520 525

Leu Gly Ala Asp Ala Arg Asp Pro Leu Asp Cys Arg Arg Ser Leu  
530 535 540

Leu Ser Trp Asp Ser Arg Ser Pro Gly Val Pro Leu Leu Pro Asp  
545 550 555

Thr Ser Thr Phe Tyr Gly Ser Leu Ile Ala Glu Leu Pro Ser Ser  
560 565 570

Thr Pro Ala Arg Pro Ser Pro Gln Val Pro Ala Val Arg Arg Leu  
575 580 585

Pro Pro Gln Leu Ala Gln Leu Ser Ser Pro Cys Ser Ser Ser Asp  
590 595 600

Ser Leu Cys Ser Arg Arg Gly Leu Ser Ser Pro Arg Leu Ser Leu  
605 610 615

Ala Pro Ala Glu Ala Trp Lys Ala Lys Lys Lys Gln Glu Leu Gln  
620 625 630

His Ala Asn Ser Ser Pro Leu Leu Arg Gly Ser His Ser Leu Glu  
635 640 645

Leu Arg Ala Cys Glu Leu Gly Asn Arg Gly Ser Lys Asn Leu Ser  
650 655 660

Gln Ser Pro Gly Ala Val Pro Gln Ala Leu Val Ala Trp Arg Ala  
665 670 675

Leu Gly Pro Lys Leu Leu Ser Ser Ser Asn Glu Leu Val Thr Arg  
680 685 690

His Leu Pro Pro Ala Pro Leu Phe Pro His Glu Thr Pro Pro Thr  
695 700 705

Gln Ser Gln Gln Thr Gln Pro Pro Val Ala Pro Gln Ala Pro Ser  
710 715 720

Ser Ile Leu Leu Pro Ala Ala Pro Ile Pro Ile Leu Ser Pro Cys  
725 730 735

Ser Pro Pro Ser Pro Gln Ala Ser Ser Leu Ser Gly Pro Ser Pro  
740 745 750

Ala Ser Ser Arg Leu Ser Ser Ser Ser Leu Ser Ser Leu Gly Glu  
755 760 765

Asp Gln Asp Ser Val Leu Thr Pro Glu Glu Val Ala Leu Cys Leu  
770 775 780

Glu Leu Ser Glu Gly Glu Glu Thr Pro Arg Asn Ser Val Ser Pro  
785 790 795

Met Pro Arg Ala Pro Ser Pro Pro Thr Thr Tyr Gly Tyr Ile Ser  
800 805 810

Val Pro Thr Ala Ser Glu Phe Thr Asp Met Gly Arg Thr Gly Gly  
815 820 825

Gly Val Gly Pro Lys Gly Gly Val Leu Leu Cys Pro Pro Arg Pro  
830 835 840

Cys Leu Thr Pro Thr Pro Ser Glu Gly Ser Leu Ala Asn Gly Trp  
845 850 855

Gly Ser Ala Ser Glu Asp Asn Ala Ala Ser Ala Arg Ala Ser Leu  
860 865 870

Val Ser Ser Ser Asp Gly Ser Phe Leu Ala Asp Ala His Phe Ala  
875 880 885

Arg Ala Leu Ala Val Ala Val Asp Ser Phe Gly Phe Gly Leu Glu  
890 895 900

Pro Arg Glu Ala Asp Cys Val Phe Ile Asp Ala Ser Ser Pro Pro  
905 910 915

Ser Pro Arg Asp Glu Ile Phe Leu Thr Pro Asn Leu Ser Leu Pro  
920 925 930

Leu Trp Glu Trp Arg Pro Asp Trp Leu Glu Asp Met Glu Val Ser  
935 940 945

His Thr Gln Arg Leu Gly Arg Gly Met Pro Pro Trp Pro Pro Asp  
950 955 960

Ser Gln Ile Ser Ser Gln Arg Ser Gln Leu His Cys Arg Met Pro  
965 970 975

Lys Ala Gly Ala Ser Pro Val Asp Tyr Ser  
980 985

<210> 212

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 212

gaagggacct acatgtgtgt ggcc 24

<210> 213

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 213

actgaccttc cagctgagcc acac 24

<210> 214  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 214  
aggactacac ggagcctgtg gagcttctgg ctgtgcgaat tcagctggaa 50

<210> 215  
<211> 2749  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 1869, 1887  
<223> unknown base

<400> 215  
ctcccacggt gtccagcgcc cagaatcggg ctctgtgtcc tgctatgggg 50  
  
ttgcctgtg ctcccaggtt atgaagccct ggagggccca gaggaaatca 100  
  
gcgggttcga aggggacact gtgtccctgc agtgcaccta caggaagag 150  
  
ctgagggacc accggaagta ctggtgcagg aagggtggga tcctttctc 200  
  
tcgctgctct ggcaccatct atgcagaaga agaaggccag gagacaatga 250  
  
agggcagggt gtccatccgt gacagccgcc aggagctctc gtcattgtg 300  
  
accctgtgga acctcaccct gcaagacgct ggggagtact ggtgtgggg 350  
  
cgaaaaacgg ggccccgatg agtctttact gatctctctg ttcgtcttc 400  
  
caggaccctg ctgtctctcc tcccctctc ccacctcca gcctctggct 450  
  
acaacacgcc tgcagcccaa ggcaaaagct cagcaaacc agccccagg 500  
  
attgacttct cctgggctct acccggcagc caccacagcc aagcagggga 550  
  
agacaggggc tgaggcccct ccattgccag ggacttcca gtacgggcac 600

gaaaggactt ctacgtacac agaacctct cctcaccag cgacctctcc 650  
tcctgcaggg agctcccgcc ccccatgca gctggactcc acctcagcag 700  
aggacaccag tccagctctc agcagtggca gctctaagcc cagggtgtcc 750  
atcccgatgg tccgcatact ggccccagtc ctggtgctgc tgagccttct 800  
gtcagccgca ggctgatcg ctttctgcag ccacctgctc ctgtggagaa 850  
aggaagctca acagccacg gagacacaga ggaacgagaa gttctggctc 900  
tcacgcttga ctgcggagga aaaggaagcc cttcccagg cccctgaggg 950  
ggacgtgatc tcgatgctc ccctccacac atctgaggag gagctgggct 1000  
tctcgaagt ttgtcagcg tagggcagga ggcctctctg gccaggccag 1050  
cagtgaagca gtatggctgg ctggatcagc accgattccc gaaagcttc 1100  
cacctcagcc tcagagtcca gctgcccgga ctccagggtc ctcccacc 1150  
tcccaggct ctctcttgc atgtccagc ctgacctaga agcgtttgc 1200  
agccctggag cccagagcgg tggccttgc ctccggctg gagactggga 1250  
catccctgat aggttcacat cctgggcag agtaccaggc tgctgacct 1300  
cagcagggcc agacaaggt cagtggatct ggtctgagtt tcaatctgcc 1350  
aggaactcct gggcctcatg cccagtgtcg gacctgcct tctcccact 1400  
ccagaccca cctgtcttc cctcctggc gtctcagac ttagtcccac 1450  
ggtctcctgc atcagctggt gatgaagagg agcatgctgg ggtgagactg 1500  
ggattctggc ttctcttga accacctgca tccagccct caggaagcct 1550  
gtgaaaaac tgattcttg cccaccaag accaccaaa accatctctg 1600  
ggcttggtgc aggactctga attctaaca tgcccagtga ctgtcgact 1650  
tgatttgag ggccagtggg cctgatgaac gctcacacc cttcagctta 1700  
gagtctcat ttgggtgtg acgtctccac ctgcccctaat agatctgctc 1750



tgtctgcgac accagatcca cgtggggact ccctgagge ctgctaagtc 1800  
caggccttgg tcaggtcagg tgcacattgc aggataagcc caggaccggc 1850  
acagaagtgg ttgccttnc catttgcct ccctgncca tgccttctg 1900  
cctttgaaa aaatgatgaa gaaaacctt gctccttct tgtctgaaa 1950  
gggttacttg cctatgggtt ctggtggcta gagagaaaag tagaaaacca 2000  
gagtgcacgt aggtgtctaa cacagaggag agtaggaaca gggcggatac 2050  
ctgaagtgga ctccgagtc agccccctgg agaaggggtc gggggtggtg 2100  
gtaaagtagc acaactacta ttttttct tttccatta ttattgttt 2150  
ttaagacaga atctcgtct gctgccagg ctggagtga gtggcacgat 2200  
ctgcaaactc cgcctctgg gttcaagtga ttctctgcc tcagcctccc 2250  
gagtagctgg gattacaggc acgcaccacc acacctggt aatttttga 2300  
cttttagtag agatggggtt tcaccatgtt ggccaggctg gtcttgaact 2350  
cctgacctca aatgagcctc ctgcttcagt ctcccaaatt gccgggatta 2400  
cagcatgag ccaactgtgc tggccctatt tccttaaaa agtgaaatta 2450  
agagttgtc agtatgaaa acttgaaaag atggaggaga aaaagaaaag 2500  
gaagaaaaaa atgcacca tagtctcacc agagactatc attattcgt 2550  
ttgtgtac ttcttcac tctttctt ttcacataat ttgccgtgt 2600  
tcttttaca gagcaattat ctgtatata caactttga tctgccttt 2650  
tccacctat cgttccatca cttattcca gcacttctct gtgtttaca 2700  
gacctttta taaataaaat gttcatcagc tgcataaaaa aaaaaaaaa 2749

<210> 216  
<211> 332  
<212> PRT  
<213> Homo sapiens

<400> 216

Met Arg Leu Leu Val Leu Leu Trp Gly Cys Leu Leu Leu Pro Gly  
1 5 10 15

Tyr Glu Ala Leu Glu Gly Pro Glu Glu Ile Ser Gly Phe Glu Gly  
20 25 30

Asp Thr Val Ser Leu Gln Cys Thr Tyr Arg Glu Glu Leu Arg Asp  
35 40 45

His Arg Lys Tyr Trp Cys Arg Lys Gly Gly Ile Leu Phe Ser Arg  
50 55 60

Cys Ser Gly Thr Ile Tyr Ala Glu Glu Glu Gly Gln Glu Thr Met  
65 70 75

Lys Gly Arg Val Ser Ile Arg Asp Ser Arg Gln Glu Leu Ser Leu  
80 85 90

Ile Val Thr Leu Trp Asn Leu Thr Leu Gln Asp Ala Gly Glu Tyr  
95 100 105

Trp Cys Gly Val Glu Lys Arg Gly Pro Asp Glu Ser Leu Leu Ile  
110 115 120

Ser Leu Phe Val Phe Pro Gly Pro Cys Cys Pro Pro Ser Pro Ser  
125 130 135

Pro Thr Phe Gln Pro Leu Ala Thr Thr Arg Leu Gln Pro Lys Ala  
140 145 150

Lys Ala Gln Gln Thr Gln Pro Pro Gly Leu Thr Ser Pro Gly Leu  
155 160 165

Tyr Pro Ala Ala Thr Thr Ala Lys Gln Gly Lys Thr Gly Ala Glu  
170 175 180

Ala Pro Pro Leu Pro Gly Thr Ser Gln Tyr Gly His Glu Arg Thr  
185 190 195

Ser Gln Tyr Thr Gly Thr Ser Pro His Pro Ala Thr Ser Pro Pro  
200 205 210

Ala Gly Ser Ser Arg Pro Pro Met Gln Leu Asp Ser Thr Ser Ala  
215 220 225

Glu Asp Thr Ser Pro Ala Leu Ser Ser Gly Ser Ser Lys Pro Arg  
230 235 240

Val Ser Ile Pro Met Val Arg Ile Leu Ala Pro Val Leu Val Leu  
245 250 255

Leu Ser Leu Leu Ser Ala Ala Gly Leu Ile Ala Phe Cys Ser His  
260 265 270

Leu Leu Leu Trp Arg Lys Glu Ala Gln Gln Ala Thr Glu Thr Gln  
275 280 285

Arg Asn Glu Lys Phe Trp Leu Ser Arg Leu Thr Ala Glu Glu Lys  
290 295 300

Glu Ala Pro Ser Gln Ala Pro Glu Gly Asp Val Ile Ser Met Pro  
305 310 315

Pro Leu His Thr Ser Glu Glu Glu Leu Gly Phe Ser Lys Phe Val  
320 325 330

Ser Ala

<210> 217

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 217

ccctgcagtg cacctacagg gaag 24

<210> 218

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 218

ctgtcttccc ctgcttggt gtgg 24

<210> 219

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 219

gggtgcaggaa gggtgggatc ctcttctctc gctgctctgg ccacatc 47

<210> 220

<211> 950

<212> DNA

<213> Homo sapiens

<400> 220

ttgtactaa aagctggcct agcaggccag ggagtgcagc tgcaggcgtg 50

gggggtggcag gagccgcaga gccagagcag acagccgaga aacaggtgga 100

cagtgtgaaa gaaccagtgg tctcgctctg ttgccaggc tagagtgtac 150

tggcgtgatc atagctcact gcagcctcag actcctggac ttgagaaatc 200

ctcctgcctt agcctcctgc atatctggga ctccaggggt gcactcaagc 250

cctgtttctt ctcttctgt gaggggacca cggaggctgg tgagctgcct 300

gtcatcccaa agctcagctc tgagccagag tgggtgtggc tccacctctg 350

ccgccggcat agaagccagg agcagggctc tcagaaggcg gtggtgcca 400

gctgggatca tgttgtggc cctggtctgt ctgctcagct gcctgtacc 450

ctccagttag gccaaagtct acggctgttg tgaactggcc agagtgtac 500

atgacttcgg gctggacgga taccggggat acagcctggc tgactgggtc 550

tgcttgctt attcacaag cggtttcaac gcagctgctt tggactacga 600

ggctgatggg agcaccaaca acgggatctt ccagatcaac agccggaggt 650

gggtcagcaa cctcaccg aacgtcccca acgtgtgccg gatgtactgc 700

tcagattgt tgaatcctaa tctcaaggat accgttatct gtgccatgaa 750  
gataacccaa gagcctcagg gctctgggta ctgggaggcc tggaggcatc 800  
actgccaggg aaaagacctc actgaatggg tggatggctg tgacttctag 850  
gatggacgga accatgcaca gcaggctggg aaatgtggtt tggttcctga 900  
cctaggcttg ggaagacaag ccagcgaata aaggatggtt gaacgtgaaa 950

<210> 221

<211> 146

<212> PRT

<213> Homo sapiens

<400> 221

Met Leu Leu Ala Leu Val Cys Leu Leu Ser Cys Leu Leu Pro Ser  
1 5 10 15

Ser Glu Ala Lys Leu Tyr Gly Arg Cys Glu Leu Ala Arg Val Leu  
20 25 30

His Asp Phe Gly Leu Asp Gly Tyr Arg Gly Tyr Ser Leu Ala Asp  
35 40 45

Trp Val Cys Leu Ala Tyr Phe Thr Ser Gly Phe Asn Ala Ala Ala  
50 55 60

Leu Asp Tyr Glu Ala Asp Gly Ser Thr Asn Asn Gly Ile Phe Gln  
65 70 75

Ile Asn Ser Arg Arg Trp Cys Ser Asn Leu Thr Pro Asn Val Pro  
80 85 90

Asn Val Cys Arg Met Tyr Cys Ser Asp Leu Leu Asn Pro Asn Leu  
95 100 105

Lys Asp Thr Val Ile Cys Ala Met Lys Ile Thr Gln Glu Pro Gln  
110 115 120

Gly Leu Gly Tyr Trp Glu Ala Trp Arg His His Cys Gln Gly Lys  
125 130 135

Asp Leu Thr Glu Trp Val Asp Gly Cys Asp Phe  
140 145

<210> 222  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 222  
gggatcatgt tgtggccct ggtc 24

<210> 223  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 223  
gcaaggcaga cccagtcagc cag 23

<210> 224  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 224  
ctgcctgcta ccctccaagt gaggccaagc tctacggtcg ttgtg 45

<210> 225  
<211> 2049  
<212> DNA  
<213> Homo sapiens

<400> 225  
agccgctgcc ccgggccggg cgcccgcggc ggcaccatga gtccccgctc 50

gtgcctgcgt tcgctgcgcc tcctcgtctt cgccgtcttc tcagccgccg 100

cgagcaactg gctgtacctg gccaaagtgt cgtcgggtggg gagcatctca 150

'gaggaggaga cgtgcgagaa actcaagggc ctgatccaga ggcaggtgca 200  
gatgtgcaag cggaacctgg aagtcattga ctggtgctgc cgcggtgcc 250  
agctggccat tgaggagtgc cagtaccagt tccggaaccg gcgctggaac 300  
tgctccacac tcgactcctt gcccgtcttc ggcaaggtgg tgacgcaagg 350  
gactcgggag gcggccttcg tctacgcat ctctcggca ggtgtggcct 400  
ttgcagtac gcggcgtgc agcagtgggg agctggagaa gtgcggctgt 450  
gacaggacag tgcatggggt cagcccacag ggctccagt ggtcaggatg 500  
ctctgacaac atgcctacg gtgtggcctt ctacagtcg tttgtgatg 550  
tgccggagag aagcaagggg gcctcgtcca gcagagcct catgaacctc 600  
cacaacaatg aggccggcag gaaggccatc ctgacacaca tgcgggtgga 650  
atgcaagtgc cacggggtgt caggctcctg tgaggtaaag acgtgctggc 700  
gagccgtgcc gcccttcgc caggtgggtc acgcactgaa ggagaagttt 750  
gatggtgcca ctgaggtgga gccacgccgc gtgggctcct ccagggcact 800  
ggtaccacgc aacgcacagt tcaagccgca cacagatgag gacctggtgt 850  
acttgagacc tagccccgac ttctgtgagc aggacatgc cagcggcgtg 900  
ctgggcacga ggggccgcac atgcaacaag acgtccaagg ccatcgacgg 950  
ctgtgagctg ctgtgctgtg gccgcggctt ccacacggcg caggtggagc 1000  
tggtgaacg ctgcagctgc aaattccact ggtgctgctt cgtcaagtgc 1050  
cggcagtgcc agcggctcgt ggagttgcac acgtgccgat gaccgcctgc 1100  
ctagccctgc gccggaacc acctagtggc ccagggaagg ccgataattt 1150  
aaacagtctc ccaccaccta cccaagaga tactggttgt atttttgtt 1200  
ctggtttggt ttttgggtcc tcatgttatt tattgccgaa accaggcagg 1250  
caacccaag ggcaccaacc aggcctccc caaagcctgg gcctttgtgg 1300

ctgccactga ccaaaggac ctgctcgtg ccgctggctg cccgcatgtg 1350  
gctgccactg accactcagt tgttatctgt gtccgtttt ctactgcag 1400  
acctaagggtg gagtaacaag gagtattacc accacatggc tactgaccgt 1450  
gtcatcgggg aagagggggc cttatggcag ggaaaatagg taccgactg 1500  
atggaagtca caccctctgg aaaaaagaac tcttaactct ccagcacaca 1550  
tacacatgga ctctggcag ctgagccta gaagccatgt ctctcaaatg 1600  
ccctgagaaa gggaacaagc agataccagg tcaagggcac caggttcatt 1650  
tcagccctta catggacagc tagaggttcg atatctgtgg gtccttcag 1700  
gcaagaagag ggagatgaga gcaagagacg actgaagtcc caccctagaa 1750  
cccagcctgc cccagcctgc ccctgggaag aggaaactta accactcccc 1800  
agaccacct aggcaggcat ataggctgcc atcctggacc agggatcccg 1850  
gctgtgcctt tgcagtcatg cccgagtcac tttcacagc gctgttcctc 1900  
catgaaactg aaaaacacac acacacacac acacacacac acacacacac 1950  
acacacacac ggacacacac acacacctgc gagagagagg gaggaaaggg 2000  
ctgtgccttt gcagtcatgc ccgagtcacc tttcacagca ctgttcctc 2049

<210> 226  
<211> 351  
<212> PRT  
<213> Homo sapiens

<400> 226  
Met Ser Pro Arg Ser Cys Leu Arg Ser Leu Arg Leu Leu Val Phe  
1 5 10 15  
Ala Val Phe Ser Ala Ala Ala Ser Asn Trp Leu Tyr Leu Ala Lys  
20 25 30  
Leu Ser Ser Val Gly Ser Ile Ser Glu Glu Glu Thr Cys Glu Lys  
35 40 45



Leu Lys Gly Leu Ile Gln Arg Gln Val Gln Met Cys Lys Arg Asn  
50 55 60

Leu Glu Val Met Asp Ser Val Arg Arg Gly Ala Gln Leu Ala Ile  
65 70 75

Glu Glu Cys Gln Tyr Gln Phe Arg Asn Arg Arg Trp Asn Cys Ser  
80 85 90

Thr Leu Asp Ser Leu Pro Val Phe Gly Lys Val Val Thr Gln Gly  
95 100 105

Thr Arg Glu Ala Ala Phe Val Tyr Ala Ile Ser Ser Ala Gly Val  
110 115 120

Ala Phe Ala Val Thr Arg Ala Cys Ser Ser Gly Glu Leu Glu Lys  
125 130 135

Cys Gly Cys Asp Arg Thr Val His Gly Val Ser Pro Gln Gly Phe  
140 145 150

Gln Trp Ser Gly Cys Ser Asp Asn Ile Ala Tyr Gly Val Ala Phe  
155 160 165

Ser Gln Ser Phe Val Asp Val Arg Glu Arg Ser Lys Gly Ala Ser  
170 175 180

Ser Ser Arg Ala Leu Met Asn Leu His Asn Asn Glu Ala Gly Arg  
185 190 195

Lys Ala Ile Leu Thr His Met Arg Val Glu Cys Lys Cys His Gly  
200 205 210

Val Ser Gly Ser Cys Glu Val Lys Thr Cys Trp Arg Ala Val Pro  
215 220 225

Pro Phe Arg Gln Val Gly His Ala Leu Lys Glu Lys Phe Asp Gly  
230 235 240

Ala Thr Glu Val Glu Pro Arg Arg Val Gly Ser Ser Arg Ala Leu  
245 250 255

Val Pro Arg Asn Ala Gln Phe Lys Pro His Thr Asp Glu Asp Leu  
260 265 270

Val Tyr Leu Glu Pro Ser Pro Asp Phe Cys Glu Gln Asp Met Arg  
275 280 285

Ser Gly Val Leu Gly Thr Arg Gly Arg Thr Cys Asn Lys Thr Ser  
290 295 300

Lys Ala Ile Asp Gly Cys Glu Leu Leu Cys Cys Gly Arg Gly Phe  
305 310 315

His Thr Ala Gln Val Glu Leu Ala Glu Arg Cys Ser Cys Lys Phe  
320 325 330

His Trp Cys Cys Phe Val Lys Cys Arg Gln Cys Gln Arg Leu Val  
335 340 345

Glu Leu His Thr Cys Arg  
350

<210> 227

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 227

gctgcagctg caaattccac tgg 23

<210> 228

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 228

tggtgggaga ctgtttaat tatcgcc 28

<210> 229

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 229

tgcttcgtca agtcccggca gtgccagcgg ctcgtggagt t 41

<210> 230

<211> 1355

<212> DNA

<213> Homo sapiens

<400> 230

cggacgcgtg ggcggacgcg tgggaggacg cgtgggaggga cgcgtgggct 50

gggtgcctgc atgccatgg acaccaccag gtacagcaag tggggcggca 100

gctccgagga ggtccccgga gggccctggg gacgctgggt gactggagc 150

aggagacccc tcttctggc cctggctgtc ctggtcacca cagtccttg 200

ggctgtgatt ctgagtatcc tattgtccaa ggctccacg gagcgcgcg 250

cgctgcttga cggccacgac ctgctgagga caaacgcctc gaagcagacg 300

gcggcgctgg gtgcctgaa ggaggaggct ggagactgcc acagctgctg 350

ctcggggacg caggcgcagc tgcagaccac gcgcgcggag ctggggagg 400

cgcaggcga gctgatggag caggagagcg ccctgcggga actgcgtgag 450

cgcgtgacct agggcttggc tgaagccggc aggggcccgtg aggacgtccg 500

cactgagctg ttccgggcgc tggaggccgt gaggctccag aacaactcct 550

gcgagcccgt cccacgctc tggctgtcct tcgagggctc ctgctacttt 600

ttctctgtgc caaagacgac gtgggaggcg gcgcaggatc actgcgcaga 650

tgccagcgcg cacctggtga tcgttggggg cctggatgag cagggttcc 700

tcactcggaa cacgcgtggc cgtggttact ggctgggccc gagggctgtg 750

cgccatctgg gcaaggttca gggctaccag tgggtggacg gactctctct 800

cagcttcagc cactggaacc agggagagcc caatgacgct tggggcgcg 850

agaactgtgt catgatgctg cacacggggc tgtggaacga cgcaccgtgt 900  
gacagcgaga aggacggctg gatctgtgag aaaaggcaca actgctgacc 950  
ccgcccagtg ccctggagcc ggcgccattg cagcatgtcg taccctgggg 1000  
gctgctcacc tcctggctc ctggagctga ttgccaaga gttttttct 1050  
tcctcatcca ccgctgctga gtctcagaaa cacttgcccc aacatagccc 1100  
tgtccagccc agtgccctggg ctctgggacc tccatgccga cctcatccta 1150  
actccactca cgcagacca acctaacctc cactagctcc aaaatccctg 1200  
ctctgcgctc cccgtgatat gcctccactt ctctccctaa ccaaggttag 1250  
gtgactgagg actggagctg tttggtttc tcgcatttc caccaaactg 1300  
gaagctgttt ttgcagcctg aggaagcatc aataaatatt tgagaaatga 1350

aaaaa 1355

<210> 231

<211> 293

<212> PRT

<213> Homo sapiens

<400> 231

Met Asp Thr Thr Arg Tyr Ser Lys Trp Gly Gly Ser Ser Glu Glu  
1 5 10 15

Val Pro Gly Gly Pro Trp Gly Arg Trp Val His Trp Ser Arg Arg  
20 25 30

Pro Leu Phe Leu Ala Leu Ala Val Leu Val Thr Thr Val Leu Trp  
35 40 45

Ala Val Ile Leu Ser Ile Leu Leu Ser Lys Ala Ser Thr Glu Arg  
50 55 60

Ala Ala Leu Leu Asp Gly His Asp Leu Leu Arg Thr Asn Ala Ser  
65 70 75

Lys Gln Thr Ala Ala Leu Gly Ala Leu Lys Glu Glu Val Gly Asp  
80 85 90

Cys His Ser Cys Cys Ser Gly Thr Gln Ala Gln Leu Gln Thr Thr  
95 100 105

Arg Ala Glu Leu Gly Glu Ala Gln Ala Lys Leu Met Glu Gln Glu  
110 115 120

Ser Ala Leu Arg Glu Leu Arg Glu Arg Val Thr Gln Gly Leu Ala  
125 130 135

Glu Ala Gly Arg Gly Arg Glu Asp Val Arg Thr Glu Leu Phe Arg  
140 145 150

Ala Leu Glu Ala Val Arg Leu Gln Asn Asn Ser Cys Glu Pro Cys  
155 160 165

Pro Thr Ser Trp Leu Ser Phe Glu Gly Ser Cys Tyr Phe Phe Ser  
170 175 180

Val Pro Lys Thr Thr Trp Ala Ala Ala Gln Asp His Cys Ala Asp  
185 190 195

Ala Ser Ala His Leu Val Ile Val Gly Gly Leu Asp Glu Gln Gly  
200 205 210

Phe Leu Thr Arg Asn Thr Arg Gly Arg Gly Tyr Trp Leu Gly Leu  
215 220 225

Arg Ala Val Arg His Leu Gly Lys Val Gln Gly Tyr Gln Trp Val  
230 235 240

Asp Gly Val Ser Leu Ser Phe Ser His Trp Asn Gln Gly Glu Pro  
245 250 255

Asn Asp Ala Trp Gly Arg Glu Asn Cys Val Met Met Leu His Thr  
260 265 270

Gly Leu Trp Asn Asp Ala Pro Cys Asp Ser Glu Lys Asp Gly Trp  
275 280 285

Ile Cys Glu Lys Arg His Asn Cys  
290

<210> 232

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 232

gcgagaactg tgcatgatg ctgc 24

<210> 233

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 233

gtttctgaga ctcagcagcg gtgg 24

<210> 234

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 234

caccgtgtga cagcgagaag gacggctgga tctgtgagaa aaggcacaac 50

<210> 235

<211> 1847

<212> DNA

<213> Homo sapiens

<400> 235

gccaggggaa gagggatgac cgacccgggg aaggtcgctg ggcagggcga 50

gttgggaaag cggcagcccc cggcggcccc gcagcccctt ctctcctt 100

ctcccacgtc ctatctgct ctcgctggag gccaggccgt gcagcatcga 150

agacaggagg aactggagcc tcattggccg gcccggggcg ccggcctcgg 200

gcttaaatag gagctccggg ctctggctgg gacccgaccg ctgccggccg 250

cgctcccgt gtcctgccg ggtgatggaa aaccccagcc cggccgccg 300  
cctgggcaag gccctctcg ctctctctt ggccacttc ggcgccgcc 350  
gccagcctt tgggggagag tccatctgtt ccgccagagc cccggccaaa 400  
tacagcatca ccttcacggg caagtggagc cagacggcct tcccaagca 450  
gtaccccctg ttccgcccc ctgcgcagtg gtcttcgtg ctgggggccg 500  
cgcatagctc cgactacagc atgtggagga agaaccagta cgtcagtaac 550  
gggctgcgcg actttgcgga gcgcggcgag gcctgggccc tgatgaagga 600  
gatcgaggcg gcgggggagg cgctgcagag cgtgcacgag gtgtttcgg 650  
cgccccctg cccagcggc accgggcaga cgtcggcgga gctggaggtg 700  
cagcgcaggc actcgtggt ctgtttgtg gtgcgcatc tgcccagccc 750  
cgactggtc gtggcggtg acagcctgga cctgtgcgac ggggaccgtt 800  
ggcgggaaca ggcggcgctg gacctgtacc cctacgagc cgggacggac 850  
agcggctca cttctctc cccaacttc gccaccatcc cgcaggacac 900  
ggtgaccgag ataactcct cctctcccag ccaccggcc aactccttct 950  
actaccgcg gctgaaggcc ctgcctcca tcgccagggt gacactgctg 1000  
cggtgcgac agagccccag ggccttcac cctcccgcc cagtctgcc 1050  
cagcagggac aatgagattg tagacagcg ctcagttca gaaacgccg 1100  
tggactgca ggtctcctg tggcgtcct ggggactgtg cggaggccac 1150  
tgtgggagc tcgggacaa gagcaggact cgctacgtcc ggtccagcc 1200  
cgccaacaac gggagcccct gccccgagct cgaagaagag gctgagtgcg 1250  
tccctgataa ctgcgtctaa gaccagagcc ccgagcccc tggggcccc 1300  
cggagccatg ggggtgcggg ggctcctgtg caggctcatg ctgcaggcgg 1350  
ccgagggcac agggggttc gcgctgctc tgaccggtt gaggccgcg 1400

cgaccatctc tgcactgaag ggccctctgg tggccggcac' gggcattggg 1450

aaacagcctc ctcctttccc aaccttgctt cttaggggcc cccgtgtccc 1500

gtctgtctc agcctctccc tctgcagga taaagtcac' cccaaggctc 1550

cagctactct aaattatgct tccttataag ttattgctgc tccaggagat 1600

tgtccttcat cgtccagggg cctggctccc acgtggttgc agatacctca 1650

gacctggtgc tctaggctgt gctgagccca ctctcccag ggcgcatcca 1700

agcggggggcc acttgagaag tgaataaatg gggcggtttc ggaagcgtca 1750

gtgtttccat gttatggatc tctctcgctt tgaataaaga ctatctctgt 1800

tgctcacaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 1847

<210> 236

<211> 331

<212> PRT

<213> Homo sapiens

<400> 236

Met Glu Asn Pro Ser Pro Ala Ala Ala Leu Gly Lys Ala Leu Cys

1 5 10 15

Ala Leu Leu Leu Ala Thr Leu Gly Ala Ala Gly Gln Pro Leu Gly

20 25 30

Gly Glu Ser Ile Cys Ser Ala Arg Ala Pro Ala Lys Tyr Ser Ile

35 40 45

Thr Phe Thr Gly Lys Trp Ser Gln Thr Ala Phe Pro Lys Gln Tyr

50 55 60

Pro Leu.Phe Arg Pro Pro Ala Gln Trp Ser Ser Leu Leu Gly Ala

65 70 75

Ala His Ser Ser Asp Tyr Ser Met Trp Arg Lys Asn Gln Tyr Val

80 85 90

Ser Asn Gly Leu Arg Asp Phe Ala Glu Arg Gly Glu Ala Trp Ala

95 100 105



Leu Met Lys Glu Ile Glu Ala Ala Gly Glu Ala Leu Gln Ser Val  
110 115 120

His Glu Val Phe Ser Ala Pro Ala Val Pro Ser Gly Thr Gly Gln  
125 130 135

Thr Ser Ala Glu Leu Glu Val Gln Arg Arg His Ser Leu Val Ser  
140 145 150

Phe Val Val Arg Ile Val Pro Ser Pro Asp Trp Phe Val Gly Val  
155 160 165

Asp Ser Leu Asp Leu Cys Asp Gly Asp Arg Trp Arg Glu Gln Ala  
170 175 180

Ala Leu Asp Leu Tyr Pro Tyr Asp Ala Gly Thr Asp Ser Gly Phe  
185 190 195

Thr Phe Ser Ser Pro Asn Phe Ala Thr Ile Pro Gln Asp Thr Val  
200 205 210

Thr Glu Ile Thr Ser Ser Ser Pro Ser His Pro Ala Asn Ser Phe  
215 220 225

Tyr Tyr Pro Arg Leu Lys Ala Leu Pro Pro Ile Ala Arg Val Thr  
230 235 240

Leu Leu Arg Leu Arg Gln Ser Pro Arg Ala Phe Ile Pro Pro Ala  
245 250 255

Pro Val Leu Pro Ser Arg Asp Asn Glu Ile Val Asp Ser Ala Ser  
260 265 270

Val Pro Glu Thr Pro Leu Asp Cys Glu Val Ser Leu Trp Ser Ser  
275 280 285

Trp Gly Leu Cys Gly Gly His Cys Gly Arg Leu Gly Thr Lys Ser  
290 295 300

Arg Thr Arg Tyr Val Arg Val Gln Pro Ala Asn Asn Gly Ser Pro  
305 310 315

Cys Pro Glu Leu Glu Glu Glu Ala Glu Cys Val Pro Asp Asn Cys  
320 325 330

Val

<210> 237

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 237

cagcactgcc aggggaagag gg 22

<210> 238

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 238

caggactcgc tacgtccg 18

<210> 239

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 239

cagcccttc tctccttc tccc 24

<210> 240

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 240

gcagttatca gggacgcact cagcc 25

<210> 241

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 241

ccagcgagag gcagatag 18

<210> 242

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 242

cggtcacctg gtctgcggg atg 23

<210> 243

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 243

cagccccttc tcctccttc tcccagctc tatctgcctc tc 42

<210> 244

<211> 1894

<212> DNA

<213> Homo sapiens

<400> 244

ggcggcgtcc gtgaggggct ccttgggca ggggtagtgt ttggtgtccc 50

tgtcttgcgt gatattgaca aactgaagct ttctgcacc actggactta 100

aggaagagtg tactcgtagg cggacagctt tagtggccgg cgggccgctc 150  
tcatccccg taaggagcag agtcctttgt actgaccaag atgagcaaca 200  
tctacatcca ggagcctccc acgaatggga aggttttatt gaaaactaca 250  
gctggagata ttgacataga gttgtgggcc aaagaagctc ctaaagcttg 300  
cagaaatfff atccaactff gtttggagc ttattatgac aataccattf 350  
ttcatagagt tgtgcctggt ttcatagtcc aaggcggaga tcctactggc 400  
acagggagtg gtggagagtc tatctatgga gcgccattca aagatgaatt 450  
tcattcacgg ttgcgtttta atcggagagg actggttgcc atggcaaag 500  
ctggtttca tgataatggc agccagtttt tctcacact gggtcgagca 550  
gatgaactta acaataagca taccatcttt ggaaaggta caggggatac 600  
agtatataac atgttgcgac tgcagaagt agacattgat gatgacgaaa 650  
gaccacataa tccacacaaa ataaaaagct gtgaggtttt gtttaactc 700  
tttgatgaca tcattccaag ggaaattaaa aggctgaaaa aagagaaacc 750  
agaggaggaa gtaaagaaat tgaaacccaa aggcacaaaa aattttagtt 800  
tactttcatt tggagaggaa gctgaggaag aagaggagga agtaaactga 850  
gttagtcaga gcatgaaggg caaaagcaaa agtagtcatg acttgcttaa 900  
ggatgatcca catctcagtt ctgttccagt ttagaaaagt gaaaaaggtg 950  
atgcaccaga tttagttgat gatggagaag atgaaagtgc agagcatgat 1000  
gaatatattg atggtgatga aaagaacctg atgagagaaa gaattgccaa 1050  
aaaattaaaa aaggacacaa gtgcgaatgt taaatcagct ggagaaggag 1100  
aagtggagaa gaaatcagtc agccgcagtg aagagctcag aaaagaagca 1150  
agacaattaa aacgggaact cttagcagca aaacaaaaaa aagtagaaaa 1200  
tgcagcaaaa caagcagaaa aaagaagtga agaggaagaa gccctccag 1250

atggtgctgt tgccgaatac agaagagaaa agcaaaagta tgaagctttg 1300  
aggaagcaac agtcaaagaa gggaacttcc cgggaagatc agacccttgc 1350  
actgctgaac cagttaaact ctaaactcac tcaagcaatt gctgaaacac 1400  
ctgaaaatga cattcctgaa acagaagtag aagatgatga aggatggatg 1450  
tcacatgtac ttcagtttga ggataaaaagc agaaaagtga aagatgcaag 1500  
catgcaagac tcagatacat ttgaaatcta tgatcctcgg aatccagtga 1550  
ataaaagaag gagggaagaa agcaaaaagc tgatgagaga gaaaaaagaa 1600  
agaagataaa atgagaataa tgataaccag aacttgctgg aaatgtgcct 1650  
acaatggcct tgtaacagcc attgttccca acagcatcac ttaggggtgt 1700  
gaaaagaagt attttgaac ctgttgctg gttttgaaaa acaattatct 1750  
tgttttcaa attgtggaat gatgtaagca aatgctttg gttactgta 1800  
catgtgtttt ttctagctg accttttata ttgctaaatc tgaataaaaa 1850  
taactttcct tccacaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1894

<210> 245  
<211> 472  
<212> PRT  
<213> Homo sapiens

<400> 245  
Met Ser Asn Ile Tyr Ile Gln Glu Pro Pro Thr Asn Gly Lys Val  
1 5 10 15  
Leu Leu Lys Thr Thr Ala Gly Asp Ile Asp Ile Glu Leu Trp Ser  
20 25 30  
Lys Glu Ala Pro Lys Ala Cys Arg Asn Phe Ile Gln Leu Cys Leu  
35 40 45  
Glu Ala Tyr Tyr Asp Asn Thr Ile Phe His Arg Val Val Pro Gly  
50 55 60  
Phe Ile Val Gln Gly Gly Asp Pro Thr Gly Thr Gly Ser Gly Gly

65	70	75
Glu Ser Ile Tyr Gly Ala Pro Phe Lys Asp Glu Phe His Ser Arg		
80	85	90
Leu Arg Phe Asn Arg Arg Gly Leu Val Ala Met Ala Asn Ala Gly		
95	100	105
Ser His Asp Asn Gly Ser Gln Phe Phe Phe Thr Leu Gly Arg Ala		
110	115	120
Asp Glu Leu Asn Asn Lys His Thr Ile Phe Gly Lys Val Thr Gly		
125	130	135
Asp Thr Val Tyr Asn Met Leu Arg Leu Ser Glu Val Asp Ile Asp		
140	145	150
Asp Asp Glu Arg Pro His Asn Pro His Lys Ile Lys Ser Cys Glu		
155	160	165
Val Leu Phe Asn Pro Phe Asp Asp Ile Ile Pro Arg Glu Ile Lys		
170	175	180
Arg Leu Lys Lys Glu Lys Pro Glu Glu Glu Val Lys Lys Leu Lys		
185	190	195
Pro Lys Gly Thr Lys Asn Phe Ser Leu Leu Ser Phe Gly Glu Glu		
200	205	210
Ala Glu Glu Glu Glu Glu Glu Val Asn Arg Val Ser Gln Ser Met		
215	220	225
Lys Gly Lys Ser Lys Ser Ser His Asp Leu Leu Lys Asp Asp Pro		
230	235	240
His Leu Ser Ser Val Pro Val Val Glu Ser Glu Lys Gly Asp Ala		
245	250	255
Pro Asp Leu Val Asp Asp Gly Glu Asp Glu Ser Ala Glu His Asp		
260	265	270
Glu Tyr Ile Asp Gly Asp Glu Lys Asn Leu Met Arg Glu Arg Ile		
275	280	285
Ala Lys Lys Leu Lys Lys Asp Thr Ser Ala Asn Val Lys Ser Ala		

290            295            300

Gly Glu Gly Glu Val Glu Lys Lys Ser Val Ser Arg Ser Glu Glu  
305            310            315

Leu Arg Lys Glu Ala Arg Gln Leu Lys Arg Glu Leu Leu Ala Ala  
320            325            330

Lys Gln Lys Lys Val Glu Asn Ala Ala Lys Gln Ala Glu Lys Arg  
335            340            345

Ser Glu Glu Glu Glu Ala Pro Pro Asp Gly Ala Val Ala Glu Tyr  
350            355            360

Arg Arg Glu Lys Gln Lys Tyr Glu Ala Leu Arg Lys Gln Gln Ser  
365            370            375

Lys Lys Gly Thr Ser Arg Glu Asp Gln Thr Leu Ala Leu Leu Asn  
380            385            390

Gln Phe Lys Ser Lys Leu Thr Gln Ala Ile Ala Glu Thr Pro Glu  
395            400            405

Asn Asp Ile Pro Glu Thr Glu Val Glu Asp Asp Glu Gly Trp Met  
410            415            420

Ser His Val Leu Gln Phe Glu Asp Lys Ser Arg Lys Val Lys Asp  
425            430            435

Ala Ser Met Gln Asp Ser Asp Thr Phe Glu Ile Tyr Asp Pro Arg  
440            445            450

Asn Pro Val Asn Lys Arg Arg Arg Glu Glu Ser Lys Lys Leu Met  
455            460            465

Arg Glu Lys Lys Glu Arg Arg  
470

<210> 246

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 246  
tgcggagatc ctactggcac aggg 24

<210> 247  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 247  
cgagttagtc agagcatg 18

<210> 248  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 248  
cagatggtgc tgttgccg 18

<210> 249  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 249  
caactggaac aggaactgag atgtggatc 29

<210> 250  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 250



ctggttcagc agtgcaaggg tctg 24

<210> 251

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 251

cctctccgat taaaacgc 18

<210> 252

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 252

gagaggactg gttgcatgg caaatgctgg ttctcatgat aatgg 45

<210> 253

<211> 2456

<212> DNA

<213> Homo sapiens

<400> 253

cgccgccgtt ggggctggaa gttcccgcca ggtccgtgcc gggcgagaga 50

gatgtgccc ggcccgcctc ggctttgagg cgagagaagt gtcccagacc 100

catttcgct tctgacggc gtcgagcct ggccagacat gtccacaggg 150

ttctcctcg ggtccgggac tctgggctcc accaccgtgg ccgccggcgg 200

gaccagcaca ggcggcggtt tctcctcgg aacgggaacg tctagcaacc 250

cttctgtggg gctcaattht ggaaatctg gaagtacttc aactccagca 300

actacatctg ctcttcaag tggttttgga accgggctct ttggatctaa 350

acctgccact ggttcactc taggaggaac aaatacaggt gccttcaca 400

ccaagaggcc tcaagtggc accaatatg gaacctgca aggaaaacag 450  
atgcatgtgg ggaagacacc catccaagtc ttttaggag tccccttctc 500  
cagacctct ctaggtatcc tcaggttgc acctccagaa cccccggagc 550  
cctggaaagg aatcagagat gctaccacct acccgctgg atggagtctc 600  
gctctgtgc caggctggag tgcagtggca cgatctggc tcaactgcaac 650  
ctccgctcc cgggttcaag cgagtctct gcctcagcct ctgagtgtct 700  
ggggctacag gtgcctgcag gagtctggg gccagctggc ctgatgtac 750  
gtcagcacgc gggaacggta caagtggctg cgcttcagcg aggactgtct 800  
gtacctgaac gtgtacgcgc cggcgcgcgc gcccggggat cccagctgc 850  
cagtgatgt ctggtcccg ggaggcgcct tcacgtggg cgctgttct 900  
tcgtacgagg gctctgactt ggccgccgc gagaaagtgg tgctggtt 950  
tctgcagcac aggctcggca tctcggctt cctgagcacg gacgacagcc 1000  
acgcgcgagg gaactggggg ctgctggacc agatggcggc tctgcgctgg 1050  
gtgcaggaga acatcgcagc ctccggggga gaccaggaa atgtaccct 1100  
gttcggccag tcggcggggg ccatgagcat ctgaggactg atgatgtcac 1150  
ccctagctc cgggtctctc catcgggcca tttcccagag tggcaccgcg 1200  
ttattcagac tttcatcac tagtaacca ctgaaagtgg ccaagaaggt 1250  
tgcccactg gctggatgca accacaacag cacacagatc ctggtaaact 1300  
gcctgagggc actatcagg accaaggtga tgcgtgtgc caacaagatg 1350  
agattcctc aactgaactt ccagagagac ccggaagaga ttatctgtc 1400  
catgaccct gtggtgatg gtgtggtgat cccagatgac ccttggtgc 1450  
tcctgacca gggaaggtt tcactgtgc cctacctct aggtgtcaac 1500  
aacctggaat tcaattgct cttgcctat aatatacca aggagcaggt 1550

accacttgtg gtggaggagt acctggacaa tgtaatgag catgactgga 1600  
agatgctacg aaaccgtatg atggacatag ttcaagatgc cactttcgtg 1650  
tatgccacac tgcagactgc tcactaccac cgagaaaccc caatgatggg 1700  
aatctgccct gctggccacg ctacaacaag gatgaaaagt acctgcagct 1750  
ggattttacc acaagagtgg gcatgaagct caaggagaag aagatggctt 1800  
tttggatgag tctgtaccag tctcaaagac ctgagaagca gaggcaattc 1850  
taagggtggc tatgcaggaa ggagccaaag aggggtttgc ccccaccatc 1900  
caggccctgg ggagactagc catggacata cctggggaca agagttctac 1950  
ccaccccagt ttagaactgc aggagctccc tgctgcctcc aggccaaagc 2000  
tagagctttt gcctgttgtg tgggacctgc actgcccttt ccagcctgac 2050  
atcccatgat gcccctctac ttcactgttg acatccagtt aggccaggcc 2100  
ctgtcaacac cacactgtgc tcagctctcc agcctcagga caacctttt 2150  
tttcccttc ttcaaatcct cccacccttc aatgtctcct tgtgactcct 2200  
tcttatggga ggtcgacca gactgccact gcccctgtca ctgcaccag 2250  
cttggcattt accatccatc ctgctcaacc ttgttctgt ctgttcacat 2300  
tggcctggag gcctagggca ggttgtgaca tggagcaaac ttttggtagt 2350  
ttgggatctt ctctcccacc cacacttacc tccccaggg ccactccaaa 2400  
gtctatacac aggggtggtc tcttcaataa agaagtgtg attagaaaaa 2450  
aaaaaa 2456

<210> 254

<211> 545

<212> PRT

<213> Homo sapiens

<400> 254

Met Ser Thr Gly Phe Ser Phe Gly Ser Gly Thr Leu Gly Ser Thr

1	5	10	15
Thr Val Ala Ala Gly Gly Thr Ser Thr Gly Gly Val Phe Ser Phe	20	25	30
Gly Thr Gly Thr Ser Ser Asn Pro Ser Val Gly Leu Asn Phe Gly	35	40	45
Asn Leu Gly Ser Thr Ser Thr Pro Ala Thr Thr Ser Ala Pro Ser	50	55	60
Ser Gly Phe Gly Thr Gly Leu Phe Gly Ser Lys Pro Ala Thr Gly	65	70	75
Phe Thr Leu Gly Gly Thr Asn Thr Gly Ala Leu His Thr Lys Arg	80	85	90
Pro Gln Val Val Thr Lys Tyr Gly Thr Leu Gln Gly Lys Gln Met	95	100	105
His Val Gly Lys Thr Pro Ile Gln Val Phe Leu Gly Val Pro Phe	110	115	120
Ser Arg Pro Pro Leu Gly Ile Leu Arg Phe Ala Pro Pro Glu Pro	125	130	135
Pro Glu Pro Trp Lys Gly Ile Arg Asp Ala Thr Thr Tyr Pro Pro	140	145	150
Gly Trp Ser Leu Ala Leu Ser Pro Gly Trp Ser Ala Val Ala Arg	155	160	165
Ser Arg Leu Thr Ala Thr Ser Ala Ser Arg Val Gln Ala Ser Leu	170	175	180
Leu Pro Gln Pro Leu Ser Val Trp Gly Tyr Arg Cys Leu Gln Glu	185	190	195
Ser Trp Gly Gln Leu Ala Ser Met Tyr Val Ser Thr Arg Glu Arg	200	205	210
Tyr Lys Trp Leu Arg Phe Ser Glu Asp Cys Leu Tyr Leu Asn Val	215	220	225
Tyr Ala Pro Ala Arg Ala Pro Gly Asp Pro Gln Leu Pro Val Met			

230            235            240  
Val Trp Phe Pro Gly Gly Ala Phe Ile Val Gly Ala Ala Ser Ser  
245            250            255  
Tyr Glu Gly Ser Asp Leu Ala Ala Arg Glu Lys Val Val Leu Val  
260            265            270  
Phe Leu Gln His Arg Leu Gly Ile Phe Gly Phe Leu Ser Thr Asp  
275            280            285  
Asp Ser His Ala Arg Gly Asn Trp Gly Leu Leu Asp Gln Met Ala  
290            295            300  
Ala Leu Arg Trp Val Gln Glu Asn Ile Ala Ala Phe Gly Gly Asp  
305            310            315  
Pro Gly Asn Val Thr Leu Phe Gly Gln Ser Ala Gly Ala Met Ser  
320            325            330  
Ile Ser Gly Leu Met Met Ser Pro Leu Ala Ser Gly Leu Phe His  
335            340            345  
Arg Ala Ile Ser Gln Ser Gly Thr Ala Leu Phe Arg Leu Phe Ile  
350            355            360  
Thr Ser Asn Pro Leu Lys Val Ala Lys Lys Val Ala His Leu Ala  
365            370            375  
Gly Cys Asn His Asn Ser Thr Gln Ile Leu Val Asn Cys Leu Arg  
380            385            390  
Ala Leu Ser Gly Thr Lys Val Met Arg Val Ser Asn Lys Met Arg  
395            400            405  
Phe Leu Gln Leu Asn Phe Gln Arg Asp Pro Glu Glu Ile Ile Trp  
410            415            420  
Ser Met Ser Pro Val Val Asp Gly Val Val Ile Pro Asp Asp Pro  
425            430            435  
Leu Val Leu Leu Thr Gln Gly Lys Val Ser Ser Val Pro Tyr Leu  
440            445            450  
Leu Gly Val Asn Asn Leu Glu Phe Asn Trp Leu Leu Pro Tyr Asn

455            460            465

Ile Thr Lys Glu Gln Val Pro Leu Val Val Glu Glu Tyr Leu Asp  
470            475            480

Asn Val Asn Glu His Asp Trp Lys Met Leu Arg Asn Arg Met Met  
485            490            495

Asp Ile Val Gln Asp Ala Thr Phe Val Tyr Ala Thr Leu Gln Thr  
500            505            510

Ala His Tyr His Arg Glu Thr Pro Met Met Gly Ile Cys Pro Ala  
515            520            525

Gly His Ala Thr Thr Arg Met Lys Ser Thr Cys Ser Trp Ile Leu  
530            535            540

Pro Gln Glu Trp Ala  
545

<210> 255

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 255

aggTgcctgc aggagtcctg ggg 23

<210> 256

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 256

ccacctcagg aagccgaaga tgcc 24

<210> 257

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 257

gaacggtaca agtggctgcg cttcagcgag gactgtctgt acctg 45

<210> 258

<211> 2764

<212> DNA

<213> Homo sapiens

<400> 258

gagaacaggc ctgtctcagg caggccctgc gcctcctatg cggagatgct 50

actgccactg ctgctgtcct cgctgctggg cgggtcccag gctatggatg 100

ggagattctg gatacagtg caggagtcag tgatggtgcc ggagggcctg 150

tgcattcttg tgcctgctc ttctcctac ccccgacaag actggacagg 200

gtctaccca gcttatggct actggtcaa agcagtgact gagacaacca 250

agggtgctcc tgtggccaca aaccaccaga gtcgagaggt ggaaatgagc 300

acccggggcc gattccagct cactggggat cccgccaagg ggaactgctc 350

cttggtgatc agagacgcg agatgcagga tgagtcacag tacttcttc 400

gggtggagag aggaagctat gtgacatata attcatgaa cgatgggttc 450

ttctaaaag taacagtgtc cagcttcacg cccagacccc aggaccacaa 500

caccgacctc acctgccatg tggacttctc cagaaagggt gtgagcgcac 550

agaggaccgt cggactcctg tggcctatg ccccagaga cctgttattc 600

agcatttac gtgacaacac gccagccctg gagccccagc cccagggaaa 650

tgtcccatc ctggaagccc aaaaaggcca gttcctcgcg ctctctgtg 700

ctgctgacag ccagccccct gccacactga gctgggtcct gcagaacaga 750

gtcctctcct cgtcccatcc ctggggcct agaccctgg ggctggagct 800

gcccggggtg aaggctgggg attcagggcg ctacacctgc cgagcggaga 850  
acaggcttgg ctcccagcag cgagccctgg acctctctgt gcagtatcct 900  
ccagagaacc tgagagtgat ggtttcccaa gcaaacagga cagtcctgga 950  
aaacctggg aacggcacgt ctctcccagt actggagggc caaagcctgt 1000  
gcctggtctg tgtcacacac agcagcccc cagccaggct gagctggacc 1050  
cagaggggac aggttctgag cccctcccag ccctcagacc ccggggtcct 1100  
ggagctgcct cgggttcaag tggagcacga aggagagttc acctgccacg 1150  
ctcggcacc actgggctcc cagcacgtct ctctcagcct ctccgtgcac 1200  
tataagaagg gactcatctc aacggcattc tccaacggag cgtttctggg 1250  
aatcggcatc acggtcttc tttctctg cctggccctg atcatcatga 1300  
agattctacc gaagagacgg actcagacag aaaccccag gccaggttc 1350  
tcccggcaca gcacgatcct ggattacatc aatgtgtcc cgacggctgg 1400  
ccccctggct cagaagcggga atcagaaagc cacaccaaac agtcctcgga 1450  
cccctctcc accagtgct cctccccag aatcaaagaa gaaccagaaa 1500  
aagcagtatc agtgcccag ttcccagaa cccaatcat cactcaagc 1550  
cccagaatcc caggagagcc aagaggagct ccattatgcc acgctcaact 1600  
tcccaggcgt cagaccagg cctgaggccc ggatgccaa ggcacccag 1650  
gcggtatg cagaagtcaa gttccaatga ggtctctta ggcttagga 1700  
ctgggacttc ggctaggag gaaggtagag taagaggtg aagataacag 1750  
agtgcaaagt ttcctctct cctctctct ctctttct ctctctct 1800  
ctcttctct ctctttaa aaaacatctg gccagggcac agtggctcac 1850  
gcctgtaac ccagcactt gggaggtga ggtgggcaga tcgctgagg 1900  
tcgggagttc gagaccagcc tggccaactt ggtgaaacc cgtctctact 1950



aaaaatacaa aaattagctg ggcattgggtg caggcgcctg taactctacc 2000  
tacttgggaa gctgaggcag gagaatcact tgaacctggg agacggaggt 2050  
tgcaatgagc caagatcaca ccattgcacg ccagcctggg caacaaagcg 2100  
agactccatc tcaaaaaaaaa aatcctccaa atgggttggg tgtctgtaat 2150  
cccagcactt tgggaggcta aggtgggtgg attgcttgag cccaggagtt 2200  
cgagaccagc ctgggcaaca tggatgaacc ccatctctac aaaaaataca 2250  
aaacatagct gggcttgggtg gtgtgtgcct gtagtcccag ctgtcagaca 2300  
tttaaacagc agcaactcca tctggaatag gagctgaata aaatgaggct 2350  
gagacctact gggctgcatt ctgagacagt ggaggcattc taagtcacag 2400  
gatgagacag gaggtccgta caagatacag gtcataaaga ctttctgat 2450  
aaaacagatt gcagtaaaga agccaaccaa atcccaccaa aaccaagttg 2500  
gccacgagag tgacctctg tctctctcac tgctacactc ctgacagcac 2550  
catgacagtt tacaatgcc atggcaacat caggaagtta cccgatatgt 2600  
cccaaaaggg ggaggaatga ataatccacc cctgttttag caaataagca 2650  
agaaataacc ataaaagtgg gcaaccagca gctctaggcg ctgctctgt 2700  
ctatggagta gccattctt ttctcttta ctttcttaat aaacttgctt 2750  
tcacctaaa aaaa 2764

<210> 259  
<211> 544  
<212> PRT  
<213> Homo sapiens

<400> 259  
Met Leu Leu Pro Leu Leu Leu Ser Ser Leu Leu Gly Gly Ser Gln  
1 5 10 15  
Ala Met Asp Gly Arg Phe Trp Ile Arg Val Gln Glu Ser Val Met  
20 25 30

Val Pro Glu Gly Leu Cys Ile Ser Val Pro Cys Ser Phe Ser Tyr  
35 40 45

Pro Arg Gln Asp Trp Thr Gly Ser Thr Pro Ala Tyr Gly Tyr Trp  
50 55 60

Phe Lys Ala Val Thr Glu Thr Thr Lys Gly Ala Pro Val Ala Thr  
65 70 75

Asn His Gln Ser Arg Glu Val Glu Met Ser Thr Arg Gly Arg Phe  
80 85 90

Gln Leu Thr Gly Asp Pro Ala Lys Gly Asn Cys Ser Leu Val Ile  
95 100 105

Arg Asp Ala Gln Met Gln Asp Glu Ser Gln Tyr Phe Phe Arg Val  
110 115 120

Glu Arg Gly Ser Tyr Val Thr Tyr Asn Phe Met Asn Asp Gly Phe  
125 130 135

Phe Leu Lys Val Thr Val Leu Ser Phe Thr Pro Arg Pro Gln Asp  
140 145 150

His Asn Thr Asp Leu Thr Cys His Val Asp Phe Ser Arg Lys Gly  
155 160 165

Val Ser Ala Gln Arg Thr Val Arg Leu Arg Val Ala Tyr Ala Pro  
170 175 180

Arg Asp Leu Val Ile Ser Ile Ser Arg Asp Asn Thr Pro Ala Leu  
185 190 195

Glu Pro Gln Pro Gln Gly Asn Val Pro Tyr Leu Glu Ala Gln Lys  
200 205 210

Gly Gln Phe Leu Arg Leu Leu Cys Ala Ala Asp Ser Gln Pro Pro  
215 220 225

Ala Thr Leu Ser Trp Val Leu Gln Asn Arg Val Leu Ser Ser Ser  
230 235 240

His Pro Trp Gly Pro Arg Pro Leu Gly Leu Glu Leu Pro Gly Val  
245 250 255

Lys Ala Gly Asp Ser Gly Arg Tyr Thr Cys Arg Ala Glu Asn Arg  
260 265 270

Leu Gly Ser Gln Gln Arg Ala Leu Asp Leu Ser Val Gln Tyr Pro  
275 280 285

Pro Glu Asn Leu Arg Val Met Val Ser Gln Ala Asn Arg Thr Val  
290 295 300

Leu Glu Asn Leu Gly Asn Gly Thr Ser Leu Pro Val Leu Glu Gly  
305 310 315

Gln Ser Leu Cys Leu Val Cys Val Thr His Ser Ser Pro Pro Ala  
320 325 330

Arg Leu Ser Trp Thr Gln Arg Gly Gln Val Leu Ser Pro Ser Gln  
335 340 345

Pro Ser Asp Pro Gly Val Leu Glu Leu Pro Arg Val Gln Val Glu  
350 355 360

His Glu Gly Glu Phe Thr Cys His Ala Arg His Pro Leu Gly Ser  
365 370 375

Gln His Val Ser Leu Ser Leu Ser Val His Tyr Lys Lys Gly Leu  
380 385 390

Ile Ser Thr Ala Phe Ser Asn Gly Ala Phe Leu Gly Ile Gly Ile  
395 400 405

Thr Ala Leu Leu Phe Leu Cys Leu Ala Leu Ile Ile Met Lys Ile  
410 415 420

Leu Pro Lys Arg Arg Thr Gln Thr Glu Thr Pro Arg Pro Arg Phe  
425 430 435

Ser Arg His Ser Thr Ile Leu Asp Tyr Ile Asn Val Val Pro Thr  
440 445 450

Ala Gly Pro Leu Ala Gln Lys Arg Asn Gln Lys Ala Thr Pro Asn  
455 460 465

Ser Pro Arg Thr Pro Pro Pro Pro Gly Ala Pro Ser Pro Glu Ser  
470 475 480

Lys Lys Asn Gln Lys Lys Gln Tyr Gln Leu Pro Ser Phe Pro Glu  
485 490 495

Pro Lys Ser Ser Thr Gln Ala Pro Glu Ser Gln Glu Ser Gln Glu  
500 505 510

Glu Leu His Tyr Ala Thr Leu Asn Phe Pro Gly Val Arg Pro Arg  
515 520 525

Pro Glu Ala Arg Met Pro Lys Gly Thr Gln Ala Asp Tyr Ala Glu  
530 535 540

Val Lys Phe Gln

<210> 260

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 260

caaagcctgc gcctggtctg tg 22

<210> 261

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 261

ttctggagcc cagaggtgc tgag 24

<210> 262

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 262  
ggagctgccca cccattcaaa tggagcacga aggagagttc acctg 45

<210> 263  
<211> 2857  
<212> DNA  
<213> Homo sapiens

<400> 263  
tgaagagtaa tagttggaat caaaagagtc aacgcaatga actgttattt 50  
  
actgctgcgt tttatgttg gaattcctct cctatggcct tgtcttgag 100  
  
caacagaaaa ctctcaaca aagaaagtca agcagccagt gcatctcat 150  
  
ttgagagtga agcgtggctg ggtgtggaac caatTTTTg taccagagga 200  
  
aatgaatagc actagtcatc acatcggcca gctaagatct gatttagaca 250  
  
atggaaacaa ttcttccag tacaagcttt tgggagctgg agctggaagt 300  
  
actttatca ttgatgaaag aacaggtgac atatagcca tacagaagct 350  
  
tgatagagag gagcgatecc tctacatctt aagagcccag gtaatagaca 400  
  
tcgctactgg aagggtgtg gaacctgagt ctgagtttgt catcaaagtt 450  
  
tcggatatca atgacaatga accaaaattc ctgatgaac cttatgaggc 500  
  
cattgtacca gagatgtctc cagaaggaac attagttatc caggtgacag 550  
  
caagtgatgc tgacgatccc tcaagtggta ataagctcg tctcctctac 600  
  
agcttacttc aaggccagcc atattttct gttgaaccaa caacaggagt 650  
  
cataagaata tcttctaaaa tggatagaga actgcaagat gattattggg 700  
  
taatcattca agccaaggac atgattggtc agccaggagc gttgtctgga 750  
  
acaacaagtg tattaattaa actttcagat gtaatgaca ataagcctat 800  
  
atttaaagaa agtttatacc gcttgactgt ctctgaatct gcaccactg 850  
  
ggacttctat aggaacaatc atggcatatg ataatgacat aggagagaat 900

gcagaaatgg attacagcat tgaagaggat gattcgcaaa catttgacat 950  
tattactaat catgaaactc aagaaggaat agttatatta aaaaagaaag 1000  
tggattttga gcaccagaac cactacggta ttagagcaaa agttaaaaac 1050  
catcatgttc ctgagcagct catgaagtac cacactgagg ctccaccac 1100  
ttcattaag atccagggtg aagatgttga tgagcctcct ctttctcc 1150  
ttccatatta tgtattgaa gttttgaag aaaccccaca gggatcattt 1200  
gtaggcgtgg tgtctgccac agaccagac aataggaaat ctctatcag 1250  
gtattctatt actaggagca aagtgttcaa tatcaatgat aatggtacaa 1300  
tcactacaag taactcactg gatcgtgaaa tcagtgttg gtacaaccta 1350  
agtattacag ccacagaaaa atacaatata gaacagatct ctctgatccc 1400  
actgtatgtg caagttctta acatcaatga tcatgctcct gagttctctc 1450  
aatactatga gacttatgtt tggaaaatg caggctctgg tcaggaatt 1500  
cagactatca gtgcagtgga tagagatgaa tccatagaag agcaccattt 1550  
ttactttaat ctatctgtag aagacactaa caattcaagt ttacaatca 1600  
tagataatca agataacaca gctgtcattt tgactaatag aactggtttt 1650  
aaccttcaag aagaacctgt cttctacatc tccatcttaa ttgccgacaa 1700  
tggaatcccg tcacttacia gtacaaacac cttaccatc catgtctgtg 1750  
actgtggtga cagtgggagc acacagacct gccagtacca ggagcttgtg 1800  
ctttccatgg gattcaagac agaagttatc attgctatc tcatttgcatt 1850  
tatgatcata ttgggttta ttttttgac tttgggtta aaacaacgga 1900  
gaaaacagat tctatttctt gagaaaagtg aagatttcag agagaatata 1950  
ttccaatag atgatgaagg ggggtggagaa gaagatacag aggcctttga 2000  
tatagcagag ctgaggagta gtaccataat gcgggaacgc aagactcgga 2050

aaaccacaag cgctgagatc aggagcctat acaggcagtc tttgcaagtt 2100

ggccccgaca gtgcatatt caggaaattc attctgaaa agctcgaaga 2150

agctaatact gatccgtgtg cccctccttt tgattccctc cagacctacg 2200

ctttgaggg aacagggtca ttagctggat ccctgagctc cttagaatca 2250

gcagtctctg atcaggatga aagctatgat taccttaatg agttgggacc 2300

tcgctttaa agattagcat gcatgtttgg ttctgcagtg cagtcaaata 2350

attagggtt ttaccatca aaattttaa aagtgcta atgtattcga 2400

accaatggt agtcttaaag agttttgtgc cctggctcta tggcggggaa 2450

agccctagtc tatggagttt tctgatttcc ctggagtaaa tactccatgg 2500

ttatttaag ctacctacat gctgtcattg aacagagatg tggggagaaa 2550

tgtaaacaat cagctcacag gcatcaatac aaccagattt gaagtaaaat 2600

aatgtaggaa gatattaaaa gtagatgaga ggacacaaga tgtagtcgat 2650

ccttatgca ttatatcatt atttacttag gaaagagtaa aaatacaaaa 2700

cgagaaaatt taaaggagca aaaattgca agtcaaatag aaatgtacaa 2750

atcgagataa catttacatt tctatcatat tgacatgaaa attgaaaatg 2800

tatagtcaga gaaattttca tgaattatc catgaagtat tgtttccttt 2850

atttaaa 2857

<210> 264

<211> 772

<212> PRT

<213> Homo sapiens

<400> 264

Met Asn Cys Tyr Leu Leu Leu Arg Phe Met Leu Gly Ile Pro Leu  
1 5 10 15

Leu Trp Pro Cys Leu Gly Ala Thr Glu Asn Ser Gln Thr Lys Lys  
20 25 30

Val Lys Gln Pro Val Arg Ser His Leu Arg Val Lys Arg Gly Trp  
35 40 45

Val Trp Asn Gln Phe Phe Val Pro Glu Glu Met Asn Thr Thr Ser  
50 55 60

His His Ile Gly Gln Leu Arg Ser Asp Leu Asp Asn Gly Asn Asn  
65 70 75

Ser Phe Gln Tyr Lys Leu Leu Gly Ala Gly Ala Gly Ser Thr Phe  
80 85 90

Ile Ile Asp Glu Arg Thr Gly Asp Ile Tyr Ala Ile Gln Lys Leu  
95 100 105

Asp Arg Glu Glu Arg Ser Leu Tyr Ile Leu Arg Ala Gln Val Ile  
110 115 120

Asp Ile Ala Thr Gly Arg Ala Val Glu Pro Glu Ser Glu Phe Val  
125 130 135

Ile Lys Val Ser Asp Ile Asn Asp Asn Glu Pro Lys Phe Leu Asp  
140 145 150

Glu Pro Tyr Glu Ala Ile Val Pro Glu Met Ser Pro Glu Gly Thr  
155 160 165

Leu Val Ile Gln Val Thr Ala Ser Asp Ala Asp Asp Pro Ser Ser  
170 175 180

Gly Asn Asn Ala Arg Leu Leu Tyr Ser Leu Leu Gln Gly Gln Pro  
185 190 195

Tyr Phe Ser Val Glu Pro Thr Thr Gly Val Ile Arg Ile Ser Ser  
200 205 210

Lys Met Asp Arg Glu Leu Gln Asp Glu Tyr Trp Val Ile Ile Gln  
215 220 225

Ala Lys Asp Met Ile Gly Gln Pro Gly Ala Leu Ser Gly Thr Thr  
230 235 240

Ser Val Leu Ile Lys Leu Ser Asp Val Asn Asp Asn Lys Pro Ile  
245 250 255



Phe Lys Glu Ser Leu Tyr Arg Leu Thr Val Ser Glu Ser Ala Pro  
260 265 270

Thr Gly Thr Ser Ile Gly Thr Ile Met Ala Tyr Asp Asn Asp Ile  
275 280 285

Gly Glu Asn Ala Glu Met Asp Tyr Ser Ile Glu Glu Asp Asp Ser  
290 295 300

Gln Thr Phe Asp Ile Ile Thr Asn His Glu Thr Gln Glu Gly Ile  
305 310 315

Val Ile Leu Lys Lys Lys Val Asp Phe Glu His Gln Asn His Tyr  
320 325 330

Gly Ile Arg Ala Lys Val Lys Asn His His Val Pro Glu Gln Leu  
335 340 345

Met Lys Tyr His Thr Glu Ala Ser Thr Thr Phe Ile Lys Ile Gln  
350 355 360

Val Glu Asp Val Asp Glu Pro Pro Leu Phe Leu Leu Pro Tyr Tyr  
365 370 375

Val Phe Glu Val Phe Glu Glu Thr Pro Gln Gly Ser Phe Val Gly  
380 385 390

Val Val Ser Ala Thr Asp Pro Asp Asn Arg Lys Ser Pro Ile Arg  
395 400 405

Tyr Ser Ile Thr Arg Ser Lys Val Phe Asn Ile Asn Asp Asn Gly  
410 415 420

Thr Ile Thr Thr Ser Asn Ser Leu Asp Arg Glu Ile Ser Ala Trp  
425 430 435

Tyr Asn Leu Ser Ile Thr Ala Thr Glu Lys Tyr Asn Ile Glu Gln  
440 445 450

Ile Ser Ser Ile Pro Leu Tyr Val Gln Val Leu Asn Ile Asn Asp  
455 460 465

His Ala Pro Glu Phe Ser Gln Tyr Tyr Glu Thr Tyr Val Cys Glu  
470 475 480

Asn Ala Gly Ser Gly Gln Val Ile Gln Thr Ile Ser Ala Val Asp  
485 490 495

Arg Asp Glu Ser Ile Glu Glu His His Phe Tyr Phe Asn Leu Ser  
500 505 510

Val Glu Asp Thr Asn Asn Ser Ser Phe Thr Ile Ile Asp Asn Gln  
515 520 525

Asp Asn Thr Ala Val Ile Leu Thr Asn Arg Thr Gly Phe Asn Leu  
530 535 540

Gln Glu Glu Pro Val Phe Tyr Ile Ser Ile Leu Ile Ala Asp Asn  
545 550 555

Gly Ile Pro Ser Leu Thr Ser Thr Asn Thr Leu Thr Ile His Val  
560 565 570

Cys Asp Cys Gly Asp Ser Gly Ser Thr Gln Thr Cys Gln Tyr Gln  
575 580 585

Glu Leu Val Leu Ser Met Gly Phe Lys Thr Glu Val Ile Ile Ala  
590 595 600

Ile Leu Ile Cys Ile Met Ile Ile Phe Gly Phe Ile Phe Leu Thr  
605 610 615

Leu Gly Leu Lys Gln Arg Arg Lys Gln Ile Leu Phe Pro Glu Lys  
620 625 630

Ser Glu Asp Phe Arg Glu Asn Ile Phe Gln Tyr Asp Asp Glu Gly  
635 640 645

Gly Gly Glu Glu Asp Thr Glu Ala Phe Asp Ile Ala Glu Leu Arg  
650 655 660

Ser Ser Thr Ile Met Arg Glu Arg Lys Thr Arg Lys Thr Thr Ser  
665 670 675

Ala Glu Ile Arg Ser Leu Tyr Arg Gln Ser Leu Gln Val Gly Pro  
680 685 690

Asp Ser Ala Ile Phe Arg Lys Phe Ile Leu Glu Lys Leu Glu Glu  
695 700 705

Ala Asn Thr Asp Pro Cys Ala Pro Pro Phe Asp Ser Leu Gln Thr  
710 715 720

Tyr Ala Phe Glu Gly Thr Gly Ser Leu Ala Gly Ser Leu Ser Ser  
725 730 735

Leu Glu Ser Ala Val Ser Asp Gln Asp Glu Ser Tyr Asp Tyr Leu  
740 745 750

Asn Glu Leu Gly Pro Arg Phe Lys Arg Leu Ala Cys Met Phe Gly  
755 760 765

Ser Ala Val Gln Ser Asn Asn  
770

<210> 265  
<211> 349  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 24, 60, 141, 226, 228, 249, 252  
<223> unknown base

<400> 265  
attcaaggc cagccatatt ttntgttga accaacaaca ggagtcataa 50  
gaatatttn taaatggat agagaactgc aagatgagta ttgggtaatc 100  
attcaagcca aggacatgat tggtcagcca ggagcgttgt ntggaacaac 150  
aagtgtatta attaaacttt cagatgttaa tgacaataag cctatatta 200  
aagaaagttt ataccgcttg actgtntntg aatctgcacc cactgggant 250  
tntataggaa caatcatggc atatgataat gacataggag agaatgcaga 300  
aatggattac agcattgaag aggatgattc gcaaacattt gacattatt 349

<210> 266  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 266

cttgactgtc tctgaatctg caccc 25

<210> 267

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 267

aagtgggtgga agcctccagt gtgg 24

<210> 268

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 268

ccactacggt attagagcaa aagttaaaaa ccatcatggt tctggagca 50

gc 52

<210> 269

<211> 2747

<212> DNA

<213> Homo sapiens

<400> 269

gcaacctcag cttctagtat ccagactcca gcgccgcccc gggcgcgac 50

cccaacccc acccagagct tctccagcgg cggcgcagcg agcagggctc 100

cccgccttaa cttcctccgc ggggccccagc caccttcggg agtccgggtt 150

gcccactgc aaactctccg cttctgcac ctgccacccc tgagccagcg 200

cgggcccccg agcgagtcat ggccaacgcg gggctgcagc tgttgggctt 250

cattctcgcc ttctgggat ggatcggcgc catcgtcagc actgcctgc 300  
cccagtggag gatttactcc tatgccggcg acaacatcgt gaccgcccag 350  
gccatgtacg aggggctgtg gatgtcctgc gtgtcgcaga gcaccgggca 400  
gatccagtgc aaagtcttg actccttgc gaactgagc agcacattgc 450  
aagcaaccg tgccttgatg gtggttgca tcctctggg agtgatagca 500  
atctttgtg ccaccgttg catgaagtgt atgaagtgc tggagacga 550  
tgaggtgcag aagatgagga tggctgtcat tgggggtgcg atattcttc 600  
ttgcaggtct ggctattta gttgccacag catggtatgg caatagaatc 650  
gttcaagaat tctatgacc tatgaccca gtcaatgcca ggtacgaatt 700  
tggtcagct ctcttactg gctgggctgc tgcttctc tgccttctg 750  
gaggtgccct actttgctg tctgtcccc gaaaaacaac ctcttacca 800  
acaccaaggc cctatccaaa acctgcacct tccagcggga aagactacgt 850  
gtgacacaga ggcaaaagga gaaaatcatg ttgaaacaaa ccgaaatgg 900  
acattgagat actatcatta acattaggac cttagaattt tgggtattgt 950  
aatctgaagt atggtattac aaaacaaca aacaacaaa aaacctatgt 1000  
gttaaaatac tcagtctaa acatggctta atctatttt atcttcttc 1050  
ctcaatatag gaggaagat tttccattt gtattactgc ttcccattga 1100  
gtaatcatic tcaaatgggg gaaggggtgc tcctaaata tatatagata 1150  
tgtatatata catgttttc tattaanaat agacagtaaa atactattct 1200  
cattatgttg atactagcat acttaanaata tctctanaat aggtanaatgt 1250  
atnaattcc atattgatga agatgttat tggatattt tcttttctg 1300  
ccttatatac atatgtaaca gtcaaatatc atttactctt ctccattagc 1350  
ttgggtgcc tttgccaca gacctagcct aattacca ggtatgattc 1400

tttcaattct tcatgctgc cctttcata tacttatttt atttttacc 1450  
ataatcttat agcacttgca tcgttattaa gcccttattt gttttgtgtt 1500  
tcattggctct ctatctcctg aatctaacac atttcatagc ctacatttta 1550  
gtttctaaag ccaagaagaa ttattacaa atcagaactt tggaggcaaa 1600  
tctttctgca tgaccaaagt gataaattcc tgttgacctt cccacacaat 1650  
ccctgtactc tgaccatag cactcttgtt tgctttgaaa atattgtcc 1700  
aattgagtag ctgcatgctg ttccccaggg tgttgtaaca caactttatt 1750  
gattgaattt ttaagctact tattcatagt ttatatccc cctaaactac 1800  
cttttggtc cccattcctt aattgtattg ttttccaag tgtaattatc 1850  
atgctgttta tatcttcta ataagggtg gtctgtttgt ctgaacaaag 1900  
tgctagactt tctggagtga taatctggtg acaaatattc tctctgtagc 1950  
tgtaagcaag tcacttaac ttctacctc tttttctat ctgccaatt 2000  
gagataatga tacttaacca gttagaagag gtagtgtgaa tattaattag 2050  
tttatattac tcttattctt tgaacatgaa ctatgcctat gtagtctt 2100  
tatttgctca gctggctgag aactgaaga agtcactgaa caaacctac 2150  
acacgtacct tcatgtgatt cactgccttc ctctctctac cagtctattt 2200  
ccactgaaca aaacctacac acatacttc atgtggttca gtccttct 2250  
ctctctacca gctatttcc actgaacaaa acctacgcac ataccttcat 2300  
gtggctcagt gccttctct ctctaccagt ctatttccat tctttcagct 2350  
gtgtctgaca tgtttgtgct ctgttcatt ttaacaactg ctcttactt 2400  
tccagtctgt acagaatgct atttacttg agcaagatga tgtaatggaa 2450  
agggtgttgg cactggtgct tggagacctg gatttgagtc ttggtctat 2500  
caatcaccgt ctgtgttga gcaaggcatt tggctgctgt aagcttattg 2550

cttcactgt aagcgggtg ttgtaattcc tgatctccc acctcacagt 2600

gatgttggt ggatccagt agatagaata catgtaagt tggtttgta 2650

atttaaaaag tgctatacta agggaaagaa ttgaggaatt aactgcatac 2700

gttttggtg tgcttttcaa atgttgaaa ataaaaaaaaa tgtaag 2747

<210> 270

<211> 211

<212> PRT

<213> Homo sapiens

<400> 270

Met Ala Asn Ala Gly Leu Gln Leu Leu Gly Phe Ile Leu Ala Phe

1 5 10 15

Leu Gly Trp Ile Gly Ala Ile Val Ser Thr Ala Leu Pro Gln Trp

20 25 30

Arg Ile Tyr Ser Tyr Ala Gly Asp Asn Ile Val Thr Ala Gln Ala

35 40 45

Met Tyr Glu Gly Leu Trp Met Ser Cys Val Ser Gln Ser Thr Gly

50 55 60

Gln Ile Gln Cys Lys Val Phe Asp Ser Leu Leu Asn Leu Ser Ser

65 70 75

Thr Leu Gln Ala Thr Arg Ala Leu Met Val Val Gly Ile Leu Leu

80 85 90

Gly Val Ile Ala Ile Phe Val Ala Thr Val Gly Met Lys Cys Met

95 100 105

Lys Cys Leu Glu Asp Asp Glu Val Gln Lys Met Arg Met Ala Val

110 115 120

Ile Gly Gly Ala Ile Phe Leu Leu Ala Gly Leu Ala Ile Leu Val

125 130 135

Ala Thr Ala Trp Tyr Gly Asn Arg Ile Val Gln Glu Phe Tyr Asp

140 145 150

Pro Met Thr Pro Val Asn Ala Arg Tyr Glu Phe Gly Gln Ala Leu

155 160 165

Phe Thr Gly Trp Ala Ala Ala Ser Leu Cys Leu Leu Gly Gly Ala  
170 175 180

Leu Leu Cys Cys Ser Cys Pro Arg Lys Thr Thr Ser Tyr Pro Thr  
185 190 195

Pro Arg Pro Tyr Pro Lys Pro Ala Pro Ser Ser Gly Lys Asp Tyr  
200 205 210

Val

<210> 271

<211> 564

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 21, 69, 163, 434, 436, 444

<223> unknown base

<400> 271

ttctggccaa acccggggct ncagctgttg ggcttcatct cgccttctg 50

ggatggatcg gcgccatent cacactgccc ttcccagtg gaggattta 100

ctccctatgc tggcgacaac atcgtgaccg cccagcccat gtacgagggg 150

ctgtggatgt ccngcgtgtc gcagagcacc gggcagatcc agtgcaaagt 200

cttgactcc ttgctgaatc tgagcagcac attgcaagca acccgtgct 250

tgatggtggt tggcatcctc ctgggagiga tagcaatctt tgtggccacc 300

gttggcatga agtgtatgaa gtgcttgaa gacgatgagg tgcagaagat 350

gaggatggct gtcatgggg gcgcgatatt tcttctgca ggtctggcta 400

tttagttgc cacagcatgg tatggcaata gaancntca acanttctat 450

gaccctatga cccagtcaa tgccaggtac gaattggtc aggetctctt 500



cactggctgg gctgctgctt ctctctgcct tctgggaggt gcctacttt 550

gctgttctg tccc 564

<210> 272

<211> 498

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 30, 49, 102, 141, 147, 171, 324-325, 339-341

<223> unknown base

<400> 272

acccttgacc caacgcggcc ccccgaccgn tcatggcca aacgcgggnc 50

tccagctgtt gggttcatt ctcccctcc tgggatggac cggcgccc 100

cntcagcact gcctgcccc agtggaggat ttactcctat nccggnaca 150

acatcgtgac cgcccaggcc ntgtacgagg ggctgtggat gtcctgcgtg 200

tcgcagagca cggggcagat ccagtgcaaa gtctttgact cccttgctga 250

atctgagcag cacattgcaa gcaaccctg ccttgatggt ggttggcatc 300

ctcctgggag tgatagcaat ctnntggcc accgttgnn ntgaagtga 350

tgaagtgcctt ggaagacgat gaggtgcaga agatgaggat ggctgcatt 400

gggggcgcga tatttctct tgcaggtctg gctatttag ttgccacagc 450

atggtatggc aatagaatcg ttcaagaatt ctatgaccct atgaccga 498

<210> 273

<211> 552

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 25, 57, 67, 94-95, 116, 152, 165, 212, 233, 392-394

<223> unknown base

<400> 273

gggcccgacc attatccaac cgggntcact gttggctcat ctccctcctg 50  
gatgaancgc gccatentca gactccctgc cccatggaga tttncctat 100  
gctggcgaca acatentgac ccccagccat gtacgagggg ctttgaacgt 150  
cngcgtgtcg cagancaccg ggcagatcca gtgcaaagtc tttgactcct 200  
tgctgaatct gngcagcaca ttgcagcaac ccntgcctg atggtggtg 250  
gcatcctcct gggagtata gcaatctttg tggccaccgt tggcatgaag 300  
tgtatgaagt gcttgaaga cgatgaggtg cagaagatga ggatggctgt 350  
cattgggggc gcgatattc ttcttcagg tctggctatt tnnngttgcc 400  
acagcatggt atggcaatag aatcgtcaa gaattctatg accctatgac 450  
cccagtcaat gccaggtacg aatttgta ggctctctc actggctggg 500  
ctgctgctc tctctgcct ctgggaggtg ccctactttg ctgttctgc 550  
ga 552

<210> 274

<211> 526

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 25, 50, 60, 123, 127, 370, 395, 397-398, 402-403, 405-407

<223> unknown base

<400> 274

attctcccct cctggatgga tgcncacc gtcacattgc ctccccan 50  
tggaggatn actcctatg tggcgacaac atcgtgacc cccaggccat 100  
ttaccgaggg gctttgatg tcntgcntgt cgagagcac cgggcagatc 150  
ccagtgaaa gtcttgact ccttgctgaa tctgagcagc acattgcaag 200  
caaccctgc cttgatgggg ttggcatcct cctgggagtg atagcaacct 250

ttgtggccac cgttggcatg aagtgtatga agtgcttggga agacgatgag 300  
gtgccagaag atgaggatgg ctgtcattgg gggcgcgata tttctgttg 350  
caggtctggc tattttagtn gccacagcat ggtatggcaa tagantnntt 400  
cnnnnttct atgacctat gacccagtc aatgccaggt acgaattgg 450  
tcaggctctc ttcactggct gggtgctgc ttctctctgc cttctgggag 500  
gtgccctact ttgctgttcc tgtccc 526

<210> 275  
<211> 398  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 22, 61, 91, 144, 238-239, 262, 265-266, 271, 274  
<223> unknown base

<400> 275  
agagcaccgg cagatcccag tncaaagtct ttgacccttg ctgaatctga 50  
gcagcacatt ncaagcaacc cttgccttg aaggtggtg ncatcccc 100  
tgggagtga tagcaatctt tgtggccacc gttggcatga agtntatga 150  
gtgcttggaa gacgatgagg tgcagaagat gaggatggct gtcattgggg 200  
gcgcatatt tcttctgca ggtctggcta ttttagtnnc cacagcatgg 250  
tatggcaata gnatnnttcg nggnttctat gaccctatga cccagtcaa 300  
tgccaggtac gaattggtc aggtctctt cactggctgg gctgctgctt 350  
ctctctgct tctgggaggt gccctactt gctgttctg tccccgaa 398

<210> 276  
<211> 495  
<212> DNA  
<213> Homo sapiens

<220>

<221> unsure

<222> 39, 58, 130, 234, 314, 364, 427, 450, 461, 476

<223> unknown base

<400> 276

agcaatgcc tgccccagt ggaggattaa ttctatgnt ggggacaaca 50

ttgtacngc ccaggccatg tacggggggc tgggatgct ctgcgtgctg 100

cagagcaccg ggcagatcca gtgcaaagn ttgactcct tgctgaattt 150

gagcagcaca ttgcaagcaa cccgtgcctt gatggtggtt ggcatcttc 200

tgggagtgat agcaatcttt gtggccaccg tggnaatgaa gtgtatgaag 250

tgcttgaag acgatgaggt gcagaagatg aggatggctg tcattggggg 300

cgcgatattt ctnttgcag gtctggctat ttagttgcc acagcatggt 350

atggcaatag aatngttcaa gaatttatg accctatgac cccagtcaat 400

gccaggtacg aatttggtca ggcttnttc actggctggg ctgctgcttn 450

ttctgcctt ntgggaggtg ccctantttg ctgttctgc gaacc 495

<210> 277

<211> 200

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 34, 87, 138, 147, 163, 165-166, 172

<223> unknown base

<400> 277

tcataggggg gcgcgatatt tttcttgca ggtntggta ttttagtgc 50

cacagcatgg tatggcaata gaatcgtca agaattntat gaccctatga 100

ccccagtaa tgccaggtac gaattggctc aggctctntt cactggntgg 150

gctgctgctt cntnngcct tntgggaggt gcctacttt gctgttctg 200

<210> 278

<211> 542  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 26, 43, 55, 77, 198, 361-362, 391-392, 396  
<223> unknown base

<400> 278  
ttctgggat ggatccgcc ccatntcac atgccctgcc cnttggagat 50  
  
ttacnctat gctggcgaac aacatntga ccgcccaggc catgtacgag 100  
  
gggctgtgga atgtcctgcg tgtcccagag caccgggcag atccagtga 150  
  
aagtcttga ctcttctg aatctgagca gcacattgca agcaacctg 200  
  
ccttgatgtt ggttggcacc ctctgggag tgatagcaat ctttgggcc 250  
  
accgttgga tgaagtgtg tgaagtgtt ggaagacgat gaggtgcaga 300  
  
agatgaggat ggctgtcatt gggggcgcga tatttcttct tgcaggtctg 350  
  
gctatttag nngccacagc atggtatggc aatcagacc nntcanaaac 400  
  
tctatgacc tatgaccca gtcaatgcca ggtacgaatt tggcaggct 450  
  
ctcttactg gctgggctgc tgccttctc tgccttctgg gaggtgcct 500  
  
acttgcctgt tcctgtccc gaaaacaac ctctaccca cg 542

<210> 279  
<211> 548  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 90, 115, 147, 228, 387  
<223> unknown base

<400> 279  
cggggctgca gctgttggc ttcatctgc ttctgggat ggaatcggcg 50

ccatgctcag cactgcctg ccccatggag gatttactcn tatgctggcg 100  
acaacatcgt gaccnccag gccatgtacg aggggctgtg gatgtcngcg 150  
tgtcgcagag caccgggcag atccagtgca aagtctttga ctcttgctg 200  
aatctgagca gcacattgca agcaacctg ccttgatggt ggttgcatc 250  
ctctgggag tgatagcaat ctttgggcc accgttgca tgaagtgtat 300  
gaagtgctg gaagacgatg aggtgcagaa gatgaggatg gctgtcattg 350  
ggggcgcgat atttcttct gcaggtctgg ctattntag ttgccacagc 400  
atggtatggc aatagaatcg ttcaagaatt ctatgacct atgacccag 450  
tcaatgccag gtacgaatt ggtcaggctc tcttactgg ctgggctgct 500  
gcttctctct gccttctggg aggtgcccta ctttgctgtt cctgcgaa 548

<210> 280

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 280

cgagcgagtc atggccaacg c 21

<210> 281

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 281

gtgtcacacg tagtctttcc cgctgg 26

<210> 282

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 282

ctgcagctgt tgggcttcat tctcgccttc ctgggatgga tcg 43

<210> 283

<211> 2285

<212> DNA

<213> Homo sapiens

<400> 283

gcgtgccgtc agctcgccgg gcaccgcggc ctgccctcg cctccgccc 50

ctgcgcctgc accgcgtaga ccgaccccc cctccagcgc gccaccgg 100

tagaggacc ccgcccgtgc cccgaccggt cccgccttt ttgtaaaact 150

taaagcgggc gcagcattaa cgcttcccgc cccggtgacc tctcaggggt 200

ctcccccca aagggtgctcc gccgctaagg aacatggcga aggtggagca 250

ggtcctgagc ctgagccgc agcacgagct caaattccga ggtccctca 300

ccgatgtgt caccaccaac ctaaagcttg gcaaccgac agaccgaaat 350

gtgtgttta aggtgaagac tacagcacca cgtaggtact gtgtgaggcc 400

caacagcggga atcatcgatg caggggcctc aattaatgta tctgtgatg 450

tacagccttt cgattatgat cccaatgaga aaagtaaaca caagtttatg 500

gttcagtcta tgtttgctcc aactgacct tcagatatgg aagcagtatg 550

gaaggaggca aaaccggaag accttatgga ttcaaaactt agatgtgtgt 600

ttgaattgcc agcagagaat gataaaccac atgatgtaga aataaataaa 650

attatatcca caactgcac aaagacagaa acaccaatag tgtctaagtc 700

tctgagttct tctttgatg acaccgaagt taagaaggtt atggaagaat 750

gtaagaggct gcaaggtgaa gttcagaggc tacgggagga gaacaagcag 800

ttcaaggaag aagatggact gcggatgagg aagacagtgc agagcaacag 850  
ccccattca gcattagccc caactgggaa ggaagaaggc cttagcacc 900  
ggctcttggc tctgggtggt ttgttcttta tcgttgggtg aattattggg 950  
aagattgcct ttagagagta gcatgcacag gatggtaaat tggattggtg 1000  
gatccacat atcatgggat ttaaatttat cataacctg tgtaaaaaga 1050  
aattaatgta tgatgacatc tcacaggtct tgcctttaa ttaccctcc 1100  
ctgcacacac atacacagat acacacacac aatataatg taacgatctt 1150  
ttagaaagt aaaatgtat agtaactgat tgagggggaa aaagaatgat 1200  
ctttattaat gacaaggaa accatgagta atgccacaat ggcattattg 1250  
aatgtcatt ttaaacattg gtaggcctg gtacatgat ctggattacc 1300  
tctctaaaa tgacaccctt cctcgcctgt tggctgctggc cctggggag 1350  
ctggagccca gcatgctggg gtagtgcggtc agtccacac agtagtcccc 1400  
acgtggccca ctcccggccc aggctgcttt ccgtgtcttc agttctgtcc 1450  
aagccatcag ctcttggga ctgatgaaca gtagcagaag cccaaaggaa 1500  
ttgactgtg gcagcatcag acgtactcgt cataagtgag aggcgtgtgt 1550  
tgactgattg acccagcgt ttgaaataa atggcagtgc tttgttact 1600  
taaagggacc aagctaaatt tgtattggtt catgtagtga agtcaaactg 1650  
ttattcagag atgttaatg catattnaac ttattaatg tatttcatct 1700  
catgtttct tattgcaca agagtacagt taatgctgcg tgctgctgaa 1750  
ctctgttggg tgaactggta ttgctgctgg agggctgtgg gctcctctgt 1800  
ctctggagag tctggcatg tggaggtggg gtttattggg atgctggaga 1850  
agagctgcca ggaagtgtt ttctgggtc agtaaataac aactgcata 1900  
gggagggaaa ttctcagtag tgacagtcaa ctctaggta cctttttaa 1950



tgaagagtag tcagtcttct agattgttct tataccacct ctcaaccatt 2000

actcacactt ccagcgccca ggtccaagtc tgagcctgac ctccccttgg 2050

ggacctagcc tggagtcagg acaaatggat cgggctgcag agggtagaa 2100

gcgagggcac cagcagttgt ggggtggggag caaggaaga gagaaactct 2150

tcagcgaatc cttctagtag tagttgagag tttgactgtg aattaatctt 2200

atgccataaa agaccaacc agttctgttt gactatgtag catcttgaaa 2250

agaaaaatta taataaagcc ccaaaattaa gaaaa 2285

<210> 284

<211> 243

<212> PRT

<213> Homo sapiens

<400> 284

Met Ala Lys Val Glu Gln Val Leu Ser Leu Glu Pro Gln His Glu

1 5 10 15

Leu Lys Phe Arg Gly Pro Phe Thr Asp Val Val Thr Thr Asn Leu

20 25 30

Lys Leu Gly Asn Pro Thr Asp Arg Asn Val Cys Phe Lys Val Lys

35 40 45

Thr Thr Ala Pro Arg Arg Tyr Cys Val Arg Pro Asn Ser Gly Ile

50 55 60

Ile Asp Ala Gly Ala Ser Ile Asn Val Ser Val Met Leu Gln Pro

65 70 75

Phe Asp Tyr Asp Pro Asn Glu Lys Ser Lys His Lys Phe Met Val

80 85 90

Gln Ser Met Phe Ala Pro Thr Asp Thr Ser Asp Met Glu Ala Val

95 100 105

Trp Lys Glu Ala Lys Pro Glu Asp Leu Met Asp Ser Lys Leu Arg

110 115 120

Cys Val Phe Glu Leu Pro Ala Glu Asn Asp Lys Pro His Asp Val

125 130 135

Glu Ile Asn Lys Ile Ile Ser Thr Thr Ala Ser Lys Thr Glu Thr

140 145 150

Pro Ile Val Ser Lys Ser Leu Ser Ser Ser Leu Asp Asp Thr Glu

155 160 165

Val Lys Lys Val Met Glu Glu Cys Lys Arg Leu Gln Gly Glu Val

170 175 180

Gln Arg Leu Arg Glu Glu Asn Lys Gln Phe Lys Glu Glu Asp Gly

185 190 195

Leu Arg Met Arg Lys Thr Val Gln Ser Asn Ser Pro Ile Ser Ala

200 205 210

Leu Ala Pro Thr Gly Lys Glu Glu Gly Leu Ser Thr Arg Leu Leu

215 220 225

Ala Leu Val Val Leu Phe Phe Ile Val Gly Val Ile Ile Gly Lys

230 235 240

Ile Ala Leu

<210> 285

<211> 418

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 40, 53, 68, 119, 134, 177-178, 255

<223> unknown base

<400> 285

gtcagcttc tagattgtcc ttatcccacc ttcaaccan tactcacatt 50

tcnagcggcc aggtccangt ctgagcctga ctccccttg gggacctagc 100

ctggagtcag gacaatggnt cgggctgcag aggnntagaa gcgagggcac 150

cagcagtttt ggggtggggag caagggngga gagaaactct tcagcgaatc 200

cttctagtac tagttgagag ttgactgtg aattaatth atgccataaa 250  
agacnaaccc agttctgttt gactatgtag catcttgaaa agaaaaatta 300  
taataaagcc ccaaaattaa gaattctttt gtcattttgt cacatttgct 350  
ctatgggggg aattattatt ttatcatttt tattattttg ccattggaag 400  
gttaacttta aatgagc 418

<210> 286  
<211> 543  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 73, 97  
<223> unknown base

<400> 286  
tattgtaaag gccatttta accattgga ggccttgga catgatgctg 50  
gattacctcc ttaatgaca cnttcctcg cctgttggtg ctggccnttg 100  
gggagctgga gccccagcat gctggggagt gcggtcagct ccacacagta 150  
gtccccacgt ggcccactcc cggcccaggc tgctttccgt gtcttcagtt 200  
ctgtccaagc catcagctcc ttgggactga tgaacagagt cagaagccca 250  
aaggaattgc cactgtggca gcatcagac tactcgtcat aagtgagagg 300  
cgtgtgtga ctgattgacc cagcgctttg gaaataaatg gcagtgcttt 350  
gttcaactaa aggaccaag ctaaattgta ttggttcag tagtgaagtc 400  
aaactgttat tcagagatgt ttaatgcata ttaacttat ttaatgtatt 450  
tcactcatg ttttctatt gtcacaagag tacagttaat gctgcgtgct 500  
gctgaactct gttgggtgaa ctggtattgc tgctggaggg ctg 543

<210> 287  
<211> 270

<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 38, 64, 72, 164, 198, 200, 220, 222, 229, 242  
<223> unknown base

<400> 287  
ccctgggtggt tttgtcttt aattcgttgg tgtaattntt gggaagattg 50  
  
ctttagagg tagnatgcac cnggctggta aattggattg gtggatccac 100  
  
catatccatg ggatttaaat ttatcataac catgtgtaa aagaaattaa 150  
  
tgtatgatga catntcacag gtattgcctt taaattacc atccctgnan 200  
  
acacatacac agatacacan anacaaatnt aatgtaacga tnttttagaa 250  
  
agttaaaaat gtatagtaac 270

<210> 288  
<211> 428  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 35, 116, 129, 197, 278, 294, 297, 349, 351  
<223> unknown base

<400> 288  
ggtggcccat tccggccca ggctgcttc cggnttcag ttctgtcaa 50  
  
gccatcagct cctgggact gatgaacaga gtcagaagcc caaaggaatt 100  
  
gcactgtggc agcatnagac gtacttgtna taagtgagag gcgtgtgtg 150  
  
actgattgac ccagcgcttt ggaaataaat ggcagtgctt tgttcantta 200  
  
aagggaccaa gctaaattg tattggttca tgtagtgaag tcaaactgtt 250  
  
attcagagat gtttaagca tatttaantt atttaatgta ttnatntca 300  
  
tgttttctta ttgcacaag agtacagta atgctgcgtg ctgctgaant 350

ntgttgggtg aactggtatt gctgctggag ggctgtgggc tcctctgtct 400

ttggagagtc tggcatgtg gaggtggg 428

<210> 289

<211> 320

<212> DNA

<213> Homo sapiens

<400> 289

tgctttccgt gcttcagtt ctgtccaagc catcagctcc ttgggacttg 50

atgaacagag tcagaagccc aaaggaattg cactgtggca gcatcagacg 100

tactcgtcat aagtgagagg cgtgtgttga ctgattgacc cagcgctttg 150

gaaataaatg gcagtgcctt gttcacttaa agggaccaag ctaaattgt 200

attggttcat gtagtgaagt caaactgtta tcagagatg ttaatgcat 250

atthaactta ttaatgtat tcatctcat gttttcttat tgcacaaga 300

gtacagttaa tgctgcgtgc 320

<210> 290

<211> 609

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 57, 60, 186, 235, 244, 304, 339, 355, 359, 361, 387, 432, 441,  
447, 481, 513, 532, 584, 598

<223> unknown base

<400> 290

aaacctttaa aagtgaggg gaaaagaatg atcctttatt aatgacaagg 50

gaaacctn gn gtaatgccac aatggcatat tgtaaatgac attttaaaca 100

ttggtaggcc ttgtacatg atgctggatt acctctctta aatgacacc 150

cttcctcgcc tgttgggtct ggcccttggg gagctngagc ccagcatgct 200

ggggagtgcg gtctgtcca cacagtagc cccangtggc ccantcccgg 250

cccaggctgc ttccgtgc ttcagttctg tccaagccat cagctcctg 300  
ggantgatga acagagtcag aagcccaaag gaattgcant gtggcagcat 350  
cagangtant ngtcataagt gagaggcgtg tgttgantga ttgaccagc 400  
gctttgaaa taaatggcag tgctttgttc anttaaaggg nccaagntaa 450  
attgtattg gttcatgtag tgaagcaaaa ntgtattca gagatgtta 500  
atgcatattt aanttattta atgtattca tntcatgttt tcttattgtc 550  
acaagggtac agttaatgct gcgtgctgct gaantctgtt ggggtaantg 600  
gtattgctg 609

<210> 291  
<211> 493  
<212> DNA  
<213> Homo sapiens

<400> 291  
ggcccttggg gagctggagc ccagcatgct ggggagtgcg gtcagctcca 50  
cacagtagtc cccacgtggc ccaactcccgg cccaggctgc ttccgtgc 100  
ttcagttctg tccaagccat cagctcctg ggactgatga acagagtcag 150  
aagcccaaag gaattgcact gtggcagcat cagacgtact cgtcataagt 200  
gagaggcgtg tgttgactga ttgaccagc gctttgaaa taaatggcag 250  
tgctttgttc acttaaaggg accaagctaa attgtattg gttcatgtag 300  
tgaagcaaaa ctgttattca gagatgtta atgcatattt aacttattta 350  
atgtattca tctcatgttt tcttattgtc acaagagtac agttaatgct 400  
gcgtgctgct gaactctgtt ggggtaactg gtattgctgc tggagggctg 450  
tgggctcctc tgctctgga gactctggc atgtggaggt ggg 493

<210> 292  
<211> 27  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 292

gcaccaccgt aggtacttgt gtgaggc 27

<210> 293

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 293

aaccaccaga gccaaagacc ggg 23

<210> 294

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 294

cagcggaaatc atcgatgcag gggcctcaat taatgtatct gtgatgttac 50

<210> 295

<211> 2530

<212> DNA

<213> Homo sapiens

<400> 295

gcgagctccg ggtgctgtgg cccggccttg gcggggcggc ctccggctca 50

ggctggctga gaggctccca gctgcagcgt ccccgcccgc ctctcggga 100

gctctgatct cagctgacag tgcctcggg gaccaaaca gcctggcagg 150

gtctcacttt gttgccagg ctggagtca gtgcatgat catggtttac 200

tgcagccttg acctcctggg tcaagcga cctgctgagt agctgggact 250

acaggacaaa attagaagat caaaatggaa aatatgctgc ttggttgat 300  
atthttcacc cctgggtgga ccctcattga tggatctgaa atggaatgg 350  
atthttatgtg gcacttgaga aaggtacccc ggattgtcag tgaaggact 400  
ttccatctca ccagccccgc atthgaggca gatgctaaga tgatggtaaa 450  
tacagtgtgt ggcatcgaat gccagaaaga actcccaact cccagccttt 500  
ctgaattgga ggattatctt tcctatgaga ctgtctttga gaatggcacc 550  
cgaaccttaa ccagggtgaa agttcaagat ttggttctg agccgactca 600  
aaatcacc acaaaggag tatctgttag gagaaagaga caggtgatg 650  
gcaccgacag caggttcagc atcttgaca aaaggttctt aaccaattc 700  
cctttcagca cagctgtgaa gctttccacg ggctgtagtgc gattctcat 750  
ttcccctcag catgttctaa ctgctgcca ctgtttcat gatgaaagg 800  
actatgcaa agggagtaaa aagctaagg tagggttgtt gaagatgagg 850  
aataaaagt gaggaagaa acgtcgaggt tctaagagga gcaggagaga 900  
agctagtgtt ggtgaccaa gagagggtac cagagagcat ctgcaggaga 950  
gagcgaaggg tgggagaaga agaaaaaat ctggccgggg tcaggaggatt 1000  
gccgaaggga ggccttctt tcagtggacc cgggtcaaga ataccacat 1050  
tccgaagggc tgggcacgag gaggcattgg ggacgctacc ttgactatg 1100  
actatgctt tctggagctg aagcgtgctc aaaaaagaa atacatgaa 1150  
cttggatca gccaacgat caagaaaatg cctggtggaa tgatccactt 1200  
ctcaggattt gataacgata gggctgatca gttgtctat cgttttgca 1250  
gtgtgtccga cgaatccaat gatctcctt accaatactg cgatgtgag 1300  
tcgggtcca ccggttcggg ggtctatctg cgtctgaaag atccagaaa 1350  
aaagaattgg aagcgaaaa tcattcgggt ctactcaggg caccagtggg 1400



tggatgtcca cggggtcag aaggactaca acgttgctgt tcgcatcact 1450  
cccctaaaat acgccagat ttgcctctgg attcacggga acgatgcaa 1500  
ttgtgcttac ggctaacaga gacctgaaac agggcggtgt atcatctaaa 1550  
tcacagagaa aaccagctct gcttaccgta gtgagatcac tcataggtt 1600  
atgcctggac ttgaactctg tcaatagcat ttcaacattt tcaaaaatca 1650  
ggagatttc gtccatttaa aaaatgtata ggtgcagata ttgaaactag 1700  
gtgggcactt caatgccaag tatatactct tctttacatg gtgatgagtt 1750  
tcattttag aaaaatttg ttgccttctt aaaaattaga cacactttaa 1800  
acctcaaac aggtattata aataacatgt gactccttaa tggacttatt 1850  
ctcagggtcc tactctaaga agaatctaata aggatgctgg ttgtgtatta 1900  
aatgtgaaat tgcatagata aagtagatg gtaaagcaat tagtatcaga 1950  
atagagacag aaagttacaa cacagttgt actactctga gatggatcca 2000  
ttcagctcat gccctcaatg tttatattgt gttatctgtt gggctcggga 2050  
catttagttt agttttttg aagaattaca aatcagaaga aaaagcaagc 2100  
attataaaca aaactaataa ctgtttact gctttaagaa ataacaatta 2150  
caatgtgtat tatttaaaaa tgggagaaat agtttgttct atgaaataaa 2200  
cctagtttag aaatagggaa gctgagacat ttaagatct caagtttta 2250  
ttaaactaat actcaaata tggactttc atgtatgcat agggaagaca 2300  
cttcacaaat tatgaatgat catgtgtga aagccacatt atttatgct 2350  
atacattcta tgtatgaggt gctacattt taggacaaag aattctgtaa 2400  
tcttttcaa gaaagagtct tttctcctt gacaaaatcc agcttttga 2450  
tgaggactat aggtgaaat ctctgattag taattttaga tatgtcctt 2500  
cctaaaaatg aataaaattt atgaatatga 2530

<210> 296  
<211> 413  
<212> PRT  
<213> Homo sapiens

<400> 296  
Met Glu Asn Met Leu Leu Trp Leu Ile Phe Phe Thr Pro Gly Trp  
1 5 10 15  
Thr Leu Ile Asp Gly Ser Glu Met Glu Trp Asp Phe Met Trp His  
20 25 30  
Leu Arg Lys Val Pro Arg Ile Val Ser Glu Arg Thr Phe His Leu  
35 40 45  
Thr Ser Pro Ala Phe Glu Ala Asp Ala Lys Met Met Val Asn Thr  
50 55 60  
Val Cys Gly Ile Glu Cys Gln Lys Glu Leu Pro Thr Pro Ser Leu  
65 70 75  
Ser Glu Leu Glu Asp Tyr Leu Ser Tyr Glu Thr Val Phe Glu Asn  
80 85 90  
Gly Thr Arg Thr Leu Thr Arg Val Lys Val Gln Asp Leu Val Leu  
95 100 105  
Glu Pro Thr Gln Asn Ile Thr Thr Lys Gly Val Ser Val Arg Arg  
110 115 120  
Lys Arg Gln Val Tyr Gly Thr Asp Ser Arg Phe Ser Ile Leu Asp  
125 130 135  
Lys Arg Phe Leu Thr Asn Phe Pro Phe Ser Thr Ala Val Lys Leu  
140 145 150  
Ser Thr Gly Cys Ser Gly Ile Leu Ile Ser Pro Gln His Val Leu  
155 160 165  
Thr Ala Ala His Cys Val His Asp Gly Lys Asp Tyr Val Lys Gly  
170 175 180  
Ser Lys Lys Leu Arg Val Gly Leu Leu Lys Met Arg Asn Lys Ser  
185 190 195

Gly Gly Lys Lys Arg Arg Gly Ser Lys Arg Ser Arg Arg Glu Ala  
200 205 210

Ser Gly Gly Asp Gln Arg Glu Gly Thr Arg Glu His Leu Gln Glu  
215 220 225

Arg Ala Lys Gly Gly Arg Arg Arg Lys Lys Ser Gly Arg Gly Gln  
230 235 240

Arg Ile Ala Glu Gly Arg Pro Ser Phe Gln Trp Thr Arg Val Lys  
245 250 255

Asn Thr His Ile Pro Lys Gly Trp Ala Arg Gly Gly Met Gly Asp  
260 265 270

Ala Thr Leu Asp Tyr Asp Tyr Ala Leu Leu Glu Leu Lys Arg Ala  
275 280 285

His Lys Lys Lys Tyr Met Glu Leu Gly Ile Ser Pro Thr Ile Lys  
290 295 300

Lys Met Pro Gly Gly Met Ile His Phe Ser Gly Phe Asp Asn Asp  
305 310 315

Arg Ala Asp Gln Leu Val Tyr Arg Phe Cys Ser Val Ser Asp Glu  
320 325 330

Ser Asn Asp Leu Leu Tyr Gln Tyr Cys Asp Ala Glu Ser Gly Ser  
335 340 345

Thr Gly Ser Gly Val Tyr Leu Arg Leu Lys Asp Pro Asp Lys Lys  
350 355 360

Asn Trp Lys Arg Lys Ile Ile Ala Val Tyr Ser Gly His Gln Trp  
365 370 375

Val Asp Val His Gly Val Gln Lys Asp Tyr Asn Val Ala Val Arg  
380 385 390

Ile Thr Pro Leu Lys Tyr Ala Gln Ile Cys Leu Trp Ile His Gly  
395 400 405

Asn Asp Ala Asn Cys Ala Tyr Gly  
410

<210> 297  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 297  
gcatctgcag gagagcga aggg 24

<210> 298  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 298  
catcgtccc gtgaatccag aggc 24

<210> 299  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 299  
gaaggaggc cttccttca gtggaccgg gtcaagaata cccac 45

<210> 300  
<211> 1869  
<212> DNA  
<213> Homo sapiens

<400> 300  
aatgtgagag gggctgatgg aagctgatag gcaggactgg agtgtagca 50

ccagtactgg atgtgacagc aggcagagga gcacttagca gcttattcag 100

tgtccgattc tgattccggc aaggatccaa gcatggaatg ctgccgtcgg 150

gcaactcctg gcacactgct cctctttctg gctttcctgc tcttgagttc 200  
caggaccgca cgctccgagg aggaccggga cggcctatgg gatgcctggg 250  
gcccatggag tgaatgctca cgcacctgcg ggggaggggc ctctactct 300  
ctgaggcgct gcctgagcag caagagctgt gaaggaagaa atatccgata 350  
cagaacatgc agtaatgtgg actgccacc agaagcaggt gatttccgag 400  
ctcagcaatg ctgagctcat aatgatgtca agcaccatgg ccagtttat 450  
gaatggcttc ctgtgtctaa tgacctgac aacctatgtt cactcaagtg 500  
ccaagccaaa ggaacaacc ttggtgtga actagcact aaggtcttag 550  
atggtacgcg ttgctataca gaatctttg atatgtgcat cagtgttta 600  
tgccaaattg ttggctgca tcaccagctg ggaagcaccg tcaaggaaga 650  
taactgtggg gtctgcaacg gagatgggtc cacctgccgg ctggtccgag 700  
ggcagtataa atcccagctc tccgcaacca aatcgatga tactgtggtt 750  
gcacttcct atggaagtag acatattgc ctgtcttaa aagtcctga 800  
tcacttatat ctgaaacca aaacctcca ggggactaaa ggtgaaaaca 850  
gtctcagctc cacaggaact ttcttgtgg acaattctag tgtggactc 900  
cagaaattc cagacaaaga gatactgaga atggctggac cactcacagc 950  
agatttcatt gtcaagattc gtaactcggg ctccgctgac agtacagtcc 1000  
agttcatctt ctatcaacc atcatccacc gatggaggga gacggattc 1050  
tttcttget cagcaacctg tggaggaggt taccagctga catcggctga 1100  
gtgctacgat ctgaggagca accgtgtggt tgctgacaa tactgtcact 1150  
attaccaga gaacatcaaa cccaaccca agcttcagga gtgcaactg 1200  
gatcctgtc cagccagtga cggatacaag cagatcatgc cttatgacct 1250  
ctaccatccc ctctctcggg gggaggccac cccatggacc gcgtgctct 1300

cctcgtgtgg ggggggcatc cagagccggg cagtttctg tgtggaggag 1350  
gacatccagg ggcatgtcac ttcagtggaa gagtggaaat gcatgtacac 1400  
ccctaagatg cccatcgcgc agccctgcaa cattttgac tgcctaaat 1450  
ggctggcaca ggagtgtct ccgtgcacag tgacatgtgg ccagggcctc 1500  
agataccgtg tggctctctg catcgacct cgaggaatgc acacaggagg 1550  
ctgtagccca aaaacaaagc cccacataaa agaggaatgc atcgtacca 1600  
ctccctgta taaacccaaa gagaaacttc cagtcgaggc caagttgcca 1650  
tggttcaaac aagctcaaga gctagaagaa ggagctgctg tgtcagagga 1700  
gccctcgtaa gttgtaaag cacagactgt tctatattg aaactgttt 1750  
gtttaaagaa agcagtgtct cactggtgt agctttcatg gttctgaac 1800  
taagttaat catctacca aagcttttg gctctcaaat taaagattga 1850  
ttagttcaa aaaaaaaaa 1869

<210> 301

<211> 525

<212> PRT

<213> Homo sapiens

<400> 301

Met Glu Cys Cys Arg Arg Ala Thr Pro Gly Thr Leu Leu Leu Phe  
1 5 10 15

Leu Ala Phe Leu Leu Leu Ser Ser Arg Thr Ala Arg Ser Glu Glu  
20 25 30

Asp Arg Asp Gly Leu Trp Asp Ala Trp Gly Pro Trp Ser Glu Cys  
35 40 45

Ser Arg Thr Cys Gly Gly Gly Ala Ser Tyr Ser Leu Arg Arg Cys  
50 55 60

Leu Ser Ser Lys Ser Cys Glu Gly Arg Asn Ile Arg Tyr Arg Thr  
65 70 75

Cys Ser Asn Val Asp Cys Pro Pro Glu Ala Gly Asp Phe Arg Ala  
80 85 90

Gln Gln Cys Ser Ala His Asn Asp Val Lys His His Gly Gln Phe  
95 100 105

Tyr Glu Trp Leu Pro Val Ser Asn Asp Pro Asp Asn Pro Cys Ser  
110 115 120

Leu Lys Cys Gln Ala Lys Gly Thr Thr Leu Val Val Glu Leu Ala  
125 130 135

Pro Lys Val Leu Asp Gly Thr Arg Cys Tyr Thr Glu Ser Leu Asp  
140 145 150

Met Cys Ile Ser Gly Leu Cys Gln Ile Val Gly Cys Asp His Gln  
155 160 165

Leu Gly Ser Thr Val Lys Glu Asp Asn Cys Gly Val Cys Asn Gly  
170 175 180

Asp Gly Ser Thr Cys Arg Leu Val Arg Gly Gln Tyr Lys Ser Gln  
185 190 195

Leu Ser Ala Thr Lys Ser Asp Asp Thr Val Val Ala Leu Pro Tyr  
200 205 210

Gly Ser Arg His Ile Arg Leu Val Leu Lys Gly Pro Asp His Leu  
215 220 225

Tyr Leu Glu Thr Lys Thr Leu Gln Gly Thr Lys Gly Glu Asn Ser  
230 235 240

Leu Ser Ser Thr Gly Thr Phe Leu Val Asp Asn Ser Ser Val Asp  
245 250 255

Phe Gln Lys Phe Pro Asp Lys Glu Ile Leu Arg Met Ala Gly Pro  
260 265 270

Leu Thr Ala Asp Phe Ile Val Lys Ile Arg Asn Ser Gly Ser Ala  
275 280 285

Asp Ser Thr Val Gln Phe Ile Phe Tyr Gln Pro Ile Ile His Arg  
290 295 300

Trp Arg Glu Thr Asp Phe Phe Pro Cys Ser Ala Thr Cys Gly Gly  
305 310 315

Gly Tyr Gln Leu Thr Ser Ala Glu Cys Tyr Asp Leu Arg Ser Asn  
320 325 330

Arg Val Val Ala Asp Gln Tyr Cys His Tyr Tyr Pro Glu Asn Ile  
335 340 345

Lys Pro Lys Pro Lys Leu Gln Glu Cys Asn Leu Asp Pro Cys Pro  
350 355 360

Ala Ser Asp Gly Tyr Lys Gln Ile Met Pro Tyr Asp Leu Tyr His  
365 370 375

Pro Leu Pro Arg Trp Glu Ala Thr Pro Trp Thr Ala Cys Ser Ser  
380 385 390

Ser Cys Gly Gly Gly Ile Gln Ser Arg Ala Val Ser Cys Val Glu  
395 400 405

Glu Asp Ile Gln Gly His Val Thr Ser Val Glu Glu Trp Lys Cys  
410 415 420

Met Tyr Thr Pro Lys Met Pro Ile Ala Gln Pro Cys Asn Ile Phe  
425 430 435

Asp Cys Pro Lys Trp Leu Ala Gln Glu Trp Ser Pro Cys Thr Val  
440 445 450

Thr Cys Gly Gln Gly Leu Arg Tyr Arg Val Val Leu Cys Ile Asp  
455 460 465

His Arg Gly Met His Thr Gly Gly Cys Ser Pro Lys Thr Lys Pro  
470 475 480

His Ile Lys Glu Glu Cys Ile Val Pro Thr Pro Cys Tyr Lys Pro  
485 490 495

Lys Glu Lys Leu Pro Val Glu Ala Lys Leu Pro Trp Phe Lys Gln  
500 505 510

Ala Gln Glu Leu Glu Glu Gly Ala Ala Val Ser Glu Glu Pro Ser  
515 520 525



<210> 302  
<211> 1533  
<212> DNA  
<213> Homo sapiens

<400> 302  
cggacgcgtg ggcggcggct gcggaactcc cgtggagggg ccggtgggcc 50  
ctcgggcctg acagatggca gtggccactg cggcggcagt actggccgct 100  
ctgggcgggg cgtgtggct ggcggcccgc cgttcgtgg ggcccagggt 150  
ccagcggctg cgcagaggcg gggaccccgg cctcatgcac gggaagactg 200  
tgctgatcac cggggcgaac agcggcctgg gccgcgccac ggccgccgag 250  
ctactgcgcc tgggagcgcg ggtgatcatg ggctgccggg accgcgcgcg 300  
cgccgaggag gcggcgggtc agtccgccg cgagctccgc caggccgcgg 350  
agtgcggccc agagcctggc gtcagcgggg tggcgagct catagtccgg 400  
gagctggacc tcgcctcgtc gcgctcgtg cgcgccttct gccaggaaat 450  
gctccaggaa gagcctaggc tggatgtctt gatcaataac gcagggatct 500  
tccagtgcc ttacatgaag actgaagatg ggttgagat gcagttcgga 550  
gtgaaccatc tgggcactt tctactacc aatctctcc ttggactcct 600  
caaaagtca gctcccagca ggattgtgt agttctctcc aaactttata 650  
aatacggaga catcaatit gatgacttga acagtgaaca aagctataat 700  
aaaagcttt gttatagccg gagcaactg gctaacattc ttttaccag 750  
ggaactagcc cgccgcttag aaggcacaaa tgcaccgtc aatgtgttc 800  
atcctggtat tgtacggaca aatctgggga ggcacataca cattccactg 850  
ttgtcaaac cactctcaa tttggtgca tgggctttt tcaaaactcc 900  
agtagaaggt gcccagactt ccatttattt ggcctctca cctgaggtag 950  
aaggagtgc aggaagatac tttggggatt gtaaagagga agaactgttg 1000

cccaaagcta tggatgaatc tgttgcaaga aaactctggg atacagtga 1050  
agtgatggtt ggctgctaa aataggaaca aggagtaaaa gagctgttta 1100  
taaaactgca taccagtat atctgtgac aggaatggtg tggattgaga 1150  
actgttact tgaagaaaa gaatttgat attggaatag cctgctaaga 1200  
ggtacatgtg ggtatttgg agttactgaa aaattatit tgggataaga 1250  
gaatttcagc aaagatgitt taaatatata tagtaagtat aatgaataat 1300  
aagtacaatg aaaaatacaa ttatattgta aaattataac tgggcaagca 1350  
tggatgacat attaataitt gtcagaatta agtgactcaa agtgctatcg 1400  
agaggtttt caagatctt tgagttcat ggccaaagtg ttaactagtt 1450  
ttactacaat gtttgggtt tgttggaata ttatctgct ggtgtgtgca 1500  
cacaagtctt acttgaata aattactgg tac 1533

<210> 303  
<211> 336  
<212> PRT  
<213> Homo sapiens

<400> 303  
Met Ala Val Ala Thr Ala Ala Ala Val Leu Ala Ala Leu Gly Gly  
1 5 10 15  
Ala Leu Trp Leu Ala Ala Arg Arg Phe Val Gly Pro Arg Val Gln  
20 25 30  
Arg Leu Arg Arg Gly Gly Asp Pro Gly Leu Met His Gly Lys Thr  
35 40 45  
Val Leu Ile Thr Gly Ala Asn Ser Gly Leu Gly Arg Ala Thr Ala  
50 55 60  
Ala Glu Leu Leu Arg Leu Gly Ala Arg Val Ile Met Gly Cys Arg  
65 70 75  
Asp Arg Ala Arg Ala Glu Glu Ala Ala Gly Gln Leu Arg Arg Glu  
80 85 90

Leu Arg Gln Ala Ala Glu Cys Gly Pro Glu Pro Gly Val Ser Gly  
95 100 105

Val Gly Glu Leu Ile Val Arg Glu Leu Asp Leu Ala Ser Leu Arg  
110 115 120

Ser Val Arg Ala Phe Cys Gln Glu Met Leu Gln Glu Glu Pro Arg  
125 130 135

Leu Asp Val Leu Ile Asn Asn Ala Gly Ile Phe Gln Cys Pro Tyr  
140 145 150

Met Lys Thr Glu Asp Gly Phe Glu Met Gln Phe Gly Val Asn His  
155 160 165

Leu Gly His Phe Leu Leu Thr Asn Leu Leu Leu Gly Leu Leu Lys  
170 175 180

Ser Ser Ala Pro Ser Arg Ile Val Val Val Ser Ser Lys Leu Tyr  
185 190 195

Lys Tyr Gly Asp Ile Asn Phe Asp Asp Leu Asn Ser Glu Gln Ser  
200 205 210

Tyr Asn Lys Ser Phe Cys Tyr Ser Arg Ser Lys Leu Ala Asn Ile  
215 220 225

Leu Phe Thr Arg Glu Leu Ala Arg Arg Leu Glu Gly Thr Asn Val  
230 235 240

Thr Val Asn Val Leu His Pro Gly Ile Val Arg Thr Asn Leu Gly  
245 250 255

Arg His Ile His Ile Pro Leu Leu Val Lys Pro Leu Phe Asn Leu  
260 265 270

Val Ser Trp Ala Phe Phe Lys Thr Pro Val Glu Gly Ala Gln Thr  
275 280 285

Ser Ile Tyr Leu Ala Ser Ser Pro Glu Val Glu Gly Val Ser Gly  
290 295 300

Arg Tyr Phe Gly Asp Cys Lys Glu Glu Glu Leu Leu Pro Lys Ala  
305 310 315

Met Asp Glu Ser Val Ala Arg Lys Leu Trp Asp Ile Ser Glu Val  
320 325 330

Met Val Gly Leu Leu Lys  
335

<210> 304  
<211> 521  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 20, 34, 62, 87, 221, 229  
<223> unknown base

<400> 304  
ggggattgta aagaggaagn actgtgccca aagntatgga tgaatctgtt 50  
gcaagaaaat tntgggatat cagtgaagtg atggttngcc tgctaaaata 100  
ggaacaagga gtaaaagagc tgtttataaa actgcatatc agttatatct 150  
gtgatcagga atggtgtgga ttgagaactt gttacttgaa gaaaaagaat 200  
tttgatattg gaatagcctg ntaagaggna catgtgggta ttttgagtt 250  
actgaaaaat tatttttggg ataagagaat ttcagcaaag atgttttaa 300  
tatatatagt aagtataatg aataataagt acaatgaaa atacaattat 350  
attgtaaaat tataactggg caagcatgga tgacatatta atattgtca 400  
gaattaagtg actcaaagtg ctatcgagag gttttcaag tatctttgag 450  
ttcatggcc aaagtgttaa ctagttttac tacaatgttt ggtgttttg 500  
tggaattat ctgcctgget t 521

<210> 305  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 305

ccaggaaatg ctccaggaag agcc 24

<210> 306

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 306

gcccatgaca ccaaattgaa gagggg 26

<210> 307

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 307

aacgcaggga tcttccagtg cccttacatg aagactgaag atggg 45

<210> 308

<211> 1523

<212> DNA

<213> Homo sapiens

<400> 308

gagaggacga ggtgccgctg cctggagaat cctccgctgc cgtcggctcc 50

cggagcccag cccttctcta acccaacca acctagccca gtcccagccg 100

ccagcgctg tcctgtcac ggacccagc gttaccatgc atctgccgt 150

cttctatcc ttaccgacc tcagatgctc cttctgctc ctgtaactt 200

gggttttac tcctgtaaca actgaataa caagtcttgc tacagagaat 250

atagatgaaa ttttaacaa tgctgatgtt gcttagtaa attttatgc 300

tgactggtgt cgtttcagtc agatgttgca tccaatntt gaggaagctt 350  
ccgatgtcat taaggaagaa ttccaaatg aaaatcaagt agtgtttgc 400  
agagttgatt gtgatcagca ctctgacata gccagagat acaggataag 450  
caaatacca acctcaaat tgtttcgtaa tgggatgatg atgaagagag 500  
aatacagggg tcagcgatca gtgaaagcat tggcagatta catcaggcaa 550  
caaaaaagt accccattca agaaattcgg gacttagcag aaatcaccac 600  
tcttgatcgc agcaaaagaa atatcattgg atatttgag caaaaggact 650  
cggacaacta tagagtttt gaacgagtag cgaatattt gcatgatgac 700  
tgtgccttc ttctgcatt tgggatgtt tcaaaaccgg aaagatatag 750  
tggcgacaac ataactaca aaccaccagg gcattctgct ccggatatgg 800  
tgtactggg agctatgaca aatttgatg tgacttaca ttggattcaa 850  
gataaatgtg ttctctgt ccgagaaata acattgaaa atggagagga 900  
attgacagaa gaaggactgc cttttcat actcttcac atgaaagaag 950  
atacagaaag tttagaata ttccagaatg aagtagctcg gcaattaata 1000  
agtgaaaaag gtacaataaa cttttacat gccgatttg acaaattag 1050  
acatcctct ctgcacatac agaaaactcc agcagattgt cctglaatcg 1100  
ctattgacag ctttaggcat atgtatgtt ttggagactt caaagatga 1150  
ttaattcctg gaaaactcaa gcaattcgt tttgacttac attctggaaa 1200  
actgcacaga gaattccatc atggacctga cccaactgat acagccccag 1250  
gagagcaagc ccaagatgta gcaagcagtc cacctgagag ctcttccag 1300  
aaactagcac ccagtgaata taggtatact ctattgaggg atcgagatga 1350  
gctttaaaaa ctgaaaaac agtttgaag ctttcaaca gcagatcaa 1400  
cctacgtggt ggaaatagta aacctatatt ttcataattc tatgtgatt 1450

tttatttga ataacagaa agaaatttaa aaaaaaaaaa aaaaaaaaaa 1500

aaaaaaaaaa aaaaaaaaaa aaa 1523

<210> 309

<211> 406

<212> PRT

<213> Homo sapiens

<400> 309

Met His Pro Ala Val Phe Leu Ser Leu Pro Asp Leu Arg Cys Ser

1 5 10 15

Leu Leu Leu Leu Val Thr Trp Val Phe Thr Pro Val Thr Thr Glu

20 25 30

Ile Thr Ser Leu Ala Thr Glu Asn Ile Asp Glu Ile Leu Asn Asn

35 40 45

Ala Asp Val Ala Leu Val Asn Phe Tyr Ala Asp Trp Cys Arg Phe

50 55 60

Ser Gln Met Leu His Pro Ile Phe Glu Glu Ala Ser Asp Val Ile

65 70 75

Lys Glu Glu Phe Pro Asn Glu Asn Gln Val Val Phe Ala Arg Val

80 85 90

Asp Cys Asp Gln His Ser Asp Ile Ala Gln Arg Tyr Arg Ile Ser

95 100 105

Lys Tyr Pro Thr Leu Lys Leu Phe Arg Asn Gly Met Met Met Lys

110 115 120

Arg Glu Tyr Arg Gly Gln Arg Ser Val Lys Ala Leu Ala Asp Tyr

125 130 135

Ile Arg Gln Gln Lys Ser Asp Pro Ile Gln Glu Ile Arg Asp Leu

140 145 150

Ala Glu Ile Thr Thr Leu Asp Arg Ser Lys Arg Asn Ile Ile Gly

155 160 165

Tyr Phe Glu Gln Lys Asp Ser Asp Asn Tyr Arg Val Phe Glu Arg

170 175 180

Val Ala Asn Ile Leu His Asp Asp Cys Ala Phe Leu Ser Ala Phe  
185 190 195

Gly Asp Val Ser Lys Pro Glu Arg Tyr Ser Gly Asp Asn Ile Ile  
200 205 210

Tyr Lys Pro Pro Gly His Ser Ala Pro Asp Met Val Tyr Leu Gly  
215 220 225

Ala Met Thr Asn Phe Asp Val Thr Tyr Asn Trp Ile Gln Asp Lys  
230 235 240

Cys Val Pro Leu Val Arg Glu Ile Thr Phe Glu Asn Gly Glu Glu  
245 250 255

Leu Thr Glu Glu Gly Leu Pro Phe Leu Ile Leu Phe His Met Lys  
260 265 270

Glu Asp Thr Glu Ser Leu Glu Ile Phe Gln Asn Glu Val Ala Arg  
275 280 285

Gln Leu Ile Ser Glu Lys Gly Thr Ile Asn Phe Leu His Ala Asp  
290 295 300

Cys Asp Lys Phe Arg His Pro Leu Leu His Ile Gln Lys Thr Pro  
305 310 315

Ala Asp Cys Pro Val Ile Ala Ile Asp Ser Phe Arg His Met Tyr  
320 325 330

Val Phe Gly Asp Phe Lys Asp Val Leu Ile Pro Gly Lys Leu Lys  
335 340 345

Gln Phe Val Phe Asp Leu His Ser Gly Lys Leu His Arg Glu Phe  
350 355 360

His His Gly Pro Asp Pro Thr Asp Thr Ala Pro Gly Glu Gln Ala  
365 370 375

Gln Asp Val Ala Ser Ser Pro Pro Glu Ser Ser Phe Gln Lys Leu  
380 385 390

Ala Pro Ser Glu Tyr Arg Tyr Thr Leu Leu Arg Asp Arg Asp Glu  
395 400 405



Leu

<210> 310  
<211> 182  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 36, 48  
<223> unknown base

<400> 310  
attaaggaag aattccaaa tgaaaatcaa gtagntttg ccagagtnga 50  
  
tttgatcag cactctgaca tagcccagag atacaggata agcaaatacc 100  
  
caaccctcaa attgttcgt aatgggatga tgatgaagag agaatacagg 150  
  
ggtcagcag cagtgaagc attggcagat ta 182

<210> 311  
<211> 598  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 38, 59, 140, 169, 174, 183, 282-283, 294-295, 319, 396  
<223> unknown base

<400> 311  
agaggcctct ctggaagtg tcccgggtgt tcgccgngg agcccgggtc 50  
  
gagaggacna ggtgccgctg cctggagaat cctccgctgc cgctggctcc 100  
  
cggagcccag ccccttcta acccaacca acctagccn gtcccagccg 150  
  
ccagcgcctg tcctgtcnc ggancccagc gtnaccatgc atctgcccgt 200  
  
cttctatcc ttaccgacc tcagatgctc ccttctgctc ctgtaactt 250  
  
gggttttac tcctgtaaca actgaaataa cngtcttga tacnagaat 300

atagatgaaa ttttaacna tgctgatgtg gctttagtca atttttatgc 350

tgactggtgt cgtttcagtc agatgtggca tccaattttt gaggangctt 400

ccgatgtcat taaggaagaa ttccaatg aaaatcaagt agtgttgcc 450

agagttgatt gtgatcagca ctctgacata gcccagagat acaggataag 500

caaatacca accctcaaat tgttcgtaa tgggatgatg atgaagagag 550

aatacagggg tcagcgatca gtgaaagcat tggcagatta catcaggc 598

<210> 312

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 312

tgagaggcct ctctggaagt tg 22

<210> 313

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 313

gtcagcgatc agtgaagc 19

<210> 314

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 314

ccagaatgaa gtagctcggc 20

<210> 315  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 315  
ccgactcaaa atgcattgct 20

<210> 316  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 316  
catttggcag gaattgtcc 19

<210> 317  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 317  
ggtgctatag gccaaagg 18

<210> 318  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 318  
ctgtatctct ggctatgct agag 24

<210> 319

<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 319  
ctacataaa tggcacatgt cagcc 25

<210> 320  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 320  
cgtcttecta tccttaccg acctcagatg ctccttctg ctctg 46

<210> 321  
<211> 1333  
<212> DNA  
<213> Homo sapiens

<400> 321  
gcccacgcgt ccgatggcgt tcacgttcgc ggccttctgc tacatgctgg 50  
cgctgctgct cactgccgcg ctcatcttct tcgccattg gcacattata 100  
gcattfgatg agctgaagac tgattacaag aatcctatag accagtgtaa 150  
taccctgaat cccctgtac tcccagagta cctcatccac gctttcttct 200  
gtgtcatggt tctttgtgca gcagagtggc ttacactggg tctcaatatg 250  
cccctcttgg catatcatat ttggaggtat atgagtagac cagtgatgag 300  
tggccaggga ctctatgacc ctacaacat catgaatgca gatattctag 350  
catattgtca gaaggaagga tgggtgcaat tagcttttta tcttctagca 400  
ttttttact acctatatgg catgatctat gttttggtga gctcttagaa 450

caacacacag aagaattggt ccagttaagt gcatgcaaaa agccaccaa 500  
tgaagggatt ctatccagca agatcctgtc caagagtagc ctgtggaatc 550  
tgatcagtta ctttaaaaaa tgactcctta tttttaaat gttccacat 600  
tttgcttgt ggaaagactg tttcatatg ttatactcag ataaagattt 650  
taaattggtat tacgtataaa ttaatataaa atgattacct ctgggttga 700  
caggttgaa cttgcacttc ttaaggaaca gccataatcc tctgaatgat 750  
gcattaatta ctgactgtcc tagtacattg gaagcttttg tttataggaa 800  
cttgtagggc tcatttgggt ttcatgaaa cagtatctaa ttataaatta 850  
gctgtagata tcagggtgct ctgatgaagt gaaaatgtat atctgactag 900  
tgggaaactt catgggttc ctcactgtc atgtcgatga ttatatatgg 950  
atacatttac aaaaataaaa agcgggaatt tcccttcgc tgaatatta 1000  
tccctgtata ttgcatgaat gagagatttc ccatatttc atcagagtaa 1050  
taaataact tgctttaatt ctttaagcata agtaaactg atataaaat 1100  
atatgctgaa ttacttgtga agaatgcatt taaagctatt ttaaattgt 1150  
ttttattgt aagacattac ttattaagaa attggttatt atgcttactg 1200  
ttctaactg gtggtaaagg tattcttaag aattgcagg tactacagat 1250  
tttcaaaact gaatgagaga aaattgtata accatcctgc tgttcctta 1300  
gtgcaataca ataaaactct gaaattaaga ctc 1333

<210> 322

<211> 144

<212> PRT

<213> Homo sapiens

<400> 322

Met Ala Phe Thr Phe Ala Ala Phe Cys Tyr Met Leu Ala Leu Leu

1

5

10

15

Leu Thr Ala Ala Leu Ile Phe Phe Ala Ile Trp His Ile Ile Ala  
20 25 30

Phe Asp Glu Leu Lys Thr Asp Tyr Lys Asn Pro Ile Asp Gln Cys  
35 40 45

Asn Thr Leu Asn Pro Leu Val Leu Pro Glu Tyr Leu Ile His Ala  
50 55 60

Phe Phe Cys Val Met Phe Leu Cys Ala Ala Glu Trp Leu Thr Leu  
65 70 75

Gly Leu Asn Met Pro Leu Leu Ala Tyr His Ile Trp Arg Tyr Met  
80 85 90

Ser Arg Pro Val Met Ser Gly Pro Gly Leu Tyr Asp Pro Thr Thr  
95 100 105

Ile Met Asn Ala Asp Ile Leu Ala Tyr Cys Gln Lys Glu Gly Trp  
110 115 120

Cys Lys Leu Ala Phe Tyr Leu Leu Ala Phe Phe Tyr Tyr Leu Tyr  
125 130 135

Gly Met Ile Tyr Val Leu Val Ser Ser  
140

<210> 323  
<211> 477  
<212> DNA  
<213> Homo sapiens

<400> 323  
attatagcat ttgatgagct gaagactgat tacaagatcc tatagaccag 50  
tgtaataccc tgaatcccct tgactccca gactacctca tccagcttt 100  
cttctgtgtc atgtttcttt gtcagcaga gggcttaca ctgggtctca 150  
atatgccct cttggcatat catatttga ggtatatgag tagaccagtg 200  
atgagtggcc caggactcta tgaccctaca accatcatga atgcagatat 250  
tctagcatat tgcagaagg aaggatggtg caaattagct tttatcttc 300

tagcatttt ttactaccta tatggcatga tctatgtttt ggtgagcct 350

tagaacaaca cacagaagaa ttggccagc taagtgcacg caaaaagcca 400

ccaaatgaag ggattctatc cagcaagatc ctgtccaaga gtagcctgtg 450

gaatctgac agttacttta aaaaatg 477

<210> 324

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 324

tgtaaaacga cggccagta aatagacctg caattattaa tct 43

<210> 325

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 325

caggaaacag ctatgaccac ctgcacacct gcaaatccat t 41

<210> 326

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 326

gtgcagcaga gtggcttaca 20

<210> 327

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 327

actggaccaa ttcttctgtg 20

<210> 328

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 328

gatattctag catattgtca gaaggaagga tgggcaaat tagct 45

<210> 329

<211> 1174

<212> DNA

<213> Homo sapiens

<400> 329

cggacgcgtg ggggaaacct ttccgagaaa acagcaacaa gctgagctgc 50

tgtgacagag gggaacaaga tggcggcgcc gaaggggagc ctctgggtga 100

ggaccaact ggggctcccg ccgtgctgc tgctgacct ggccttgcc 150

ggaggttcgg ggaccgctc ggctgaagca ttgactcgg tcttggtga 200

tacggcgtct tgccaccggg cctgtcagtt gacctaccc ttgcacacct 250

accctaagga agaggagttg tacgcatgac agagaggtg caggctgtt 300

tcaattgtc agtttggtga tgatgaatt gacttaaate gaactaaatt 350

ggaatgtgaa tctgcatgta cagaagcata ttccaatct gatgagcaat 400

atgcttgcca tcttggtgc cagaatcagc tgccattcgc tgaactgaga 450

caagaacaac ttatgtcct gatgcaaaa atgcacctac tcttcctct 500

aactctggtg aggtcattct ggagtgacat gatggactcc gcacagagct 550



tcataacctc ttcattgact ttttatcttc aagccgatga cggaaaaata 600  
 gttatattcc agtctaagcc agaaatccag tacgcaccac attggagca 650  
 ggagcctaca aattgagag aatcatctct aagcaaaatg tcctatctgc 700  
 aatgagaaa tcacaagcg cacaggaatt ttctgaaga tggagaaagt 750  
 gatggctttt taagatgcct ctctctaac tctgggtgga tttaactac 800  
 aactctgtc ctctcgggta tggattgct ttggattgt tggcaactg 850  
 ttgctacagc tgtggagcag tatgttcct ctgagaagct gagtatctat 900  
 ggtgacttgg agtttatgaa tgaacaaaag ctaaacagat atccagcttc 950  
 ttctctgtg gttgtagat ctaaaactga agatcatgaa gaagcagggc 1000  
 ctctacctac aaaagtgaat cttgctcatt ctgaaattta agcattttc 1050  
 ttttaaaga caagtgaat agacatctaa aattcactc ctcatagagc 1100  
 ttttaaagt gtttcattgg atataggcct taagaaatca ctataaatg 1150  
 caaataaagt tactcaaac tgtg 1174

<210> 330  
 <211> 323  
 <212> PRT  
 <213> Homo sapiens

<400> 330  
 Met Ala Ala Pro Lys Gly Ser Leu Trp Val Arg Thr Gln Leu Gly  
 1 5 10 15  
 Leu Pro Pro Leu Leu Leu Leu Thr Met Ala Leu Ala Gly Gly Ser  
 20 25 30  
 Gly Thr Ala Ser Ala Glu Ala Phe Asp Ser Val Leu Gly Asp Thr  
 35 40 45  
 Ala Ser Cys His Arg Ala Cys Gln Leu Thr Tyr Pro Leu His Thr  
 50 55 60  
 Tyr Pro Lys Glu Glu Glu Leu Tyr Ala Cys Gln Arg Gly Cys Arg

65	70	75
Leu Phe Ser Ile Cys Gln Phe Val Asp Asp Gly Ile Asp Leu Asn		
80	85	90
Arg Thr Lys Leu Glu Cys Glu Ser Ala Cys Thr Glu Ala Tyr Ser		
95	100	105
Gln Ser Asp Glu Gln Tyr Ala Cys His Leu Gly Cys Gln Asn Gln		
110	115	120
Leu Pro Phe Ala Glu Leu Arg Gln Glu Gln Leu Met Ser Leu Met		
125	130	135
Pro Lys Met His Leu Leu Phe Pro Leu Thr Leu Val Arg Ser Phe		
140	145	150
Trp Ser Asp Met Met Asp Ser Ala Gln Ser Phe Ile Thr Ser Ser		
155	160	165
Trp Thr Phe Tyr Leu Gln Ala Asp Asp Gly Lys Ile Val Ile Phe		
170	175	180
Gln Ser Lys Pro Glu Ile Gln Tyr Ala Pro His Leu Glu Gln Glu		
185	190	195
Pro Thr Asn Leu Arg Glu Ser Ser Leu Ser Lys Met Ser Tyr Leu		
200	205	210
Gln Met Arg Asn Ser Gln Ala His Arg Asn Phe Leu Glu Asp Gly		
215	220	225
Glu Ser Asp Gly Phe Leu Arg Cys Leu Ser Leu Asn Ser Gly Trp		
230	235	240
Ile Leu Thr Thr Thr Leu Val Leu Ser Val Met Val Leu Leu Trp		
245	250	255
Ile Cys Cys Ala Thr Val Ala Thr Ala Val Glu Gln Tyr Val Pro		
260	265	270
Ser Glu Lys Leu Ser Ile Tyr Gly Asp Leu Glu Phe Met Asn Glu		
275	280	285
Gln Lys Leu Asn Arg Tyr Pro Ala Ser Ser Leu Val Val Val Arg		

290

295

300

Ser Lys Thr Glu Asp His Glu Glu Ala Gly Pro Leu Pro Thr Lys  
305 310 315

Val Asn Leu Ala His Ser Glu Ile  
320

<210> 331

<211> 350

<212> DNA

<213> Homo sapiens

<400> 331

ttgggtgata cgcgctcttg ccaccgggcc tgcagttga cctaccctt 50

gcacacctac cctaaggaag aggagttgta cgcattgcag agaggttga 100

ggctgtttc aattgtcag tttgtgatg atggaattga cttaaatcga 150

actaaattgg aatgtgaatc tgcattgaca gaagcatatt ccaaatcga 200

tgagcaatat gcttgccatc ttggttgcca gaatcagctg ccattcgtg 250

aactgagaca agaacaactt atgtccctga tgccaaaaat gcacctactc 300

tttctctaa ctctggtgag gtcattctgg agtgacatga tggactccgc 350

<210> 332

<211> 562

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 47

<223> unknown base

<400> 332

cacactggcc ggatcttita gattcctttg accttgacca agggcngga 50

aaacagcaac aagctgagct gctgtgacag agggaacaag atggcggcgc 100

cgaagggagc ctttgggtga ggaccaact ggggctcccg ccgtgctgc 150

tgctgacat ggccttgcc ggaggttcgg ggaccgcttc ggctgaagca 200

tttgactcgg tcttggtga tacggcgtct tgccaccggg cctgtcagtt 250

gacctacccc ttgcacacct accctaagga agaggagttg tacgcatgctc 300

agagaggttg caggctgttt tcaattgtc agtttggtga tgatggaatt 350

gacttaaate gaactaaatt ggaatgtgaa tctgcatgta cagaagcata 400

ttccaatct gatgagcaat atgcttgcca tcttggtgc cagaatcagc 450

tgccattcgc tgaactgaga caagaacaac ttatgtcctt gatgccaaa 500

atgcacctac tcttctct aactctggtg aggtcattct ggagtgcacat 550

gatggactcc gc 562

<210> 333

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 333

acaagctgag ctgctgtgac ag 22

<210> 334

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 334

tgattctggc aaccaagatg gc 22

<210> 335

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 335

atggccttgg ccggaggctc ggggaccgct tcggctgaag 40

<210> 336

<211> 1885

<212> DNA

<213> Homo sapiens

<400> 336

gcgaggtggc gatcgtgag aggcaggagg gccgaggcgg gcctgggagg 50

cgccccggag gtggggcgcc gctggggccg gcccgcacgg gcttcactg 100

agggcgcacg gcccgcgacc gagcgtgcgg actggcctcc caagcgtggg 150

gcgacaagct gccggagctg caatgggccc cggctgggga ttctgtttg 200

gcctcctggg cgccgtgtgg ctgctcagct cgggccacgg agaggagcag 250

cccccgaga cagcggcaca gaggtgcttc tgccaggta gtggttactt 300

ggatgattgt acctgtgatg ttgaaacat tgatagattt aataactaca 350

ggctttccc aagactacaa aaactcttg aaagtgacta ctttaggtat 400

tacaagtaa acctgaagag gccgtgtcct ttctggaatg acatcagcca 450

gtgtggaaga agggactgtg ctgtcaaacc atgtcaatct gatgaagttc 500

ctgatggaat taaatctgcg agctacaagt attctgaaga agccaataat 550

ctcattgaag aatgtgaaca agctgaacga ctgggagcag tggatgaatc 600

tctgagtgag gaaacacaga aggctgttct tcagtggacc aagcatgatg 650

attcttcaga taacttctgt gaagctgatg acattcagtc ccctgaagct 700

gaatatgtag atttgcttct taatcctgag cgctacactg gttacaaggg 750

accagatgct tggaaaatat ggaatgtcat ctacgaagaa aactgtttta 800

agccacagac aattaaaga cctttaaata ctttgcttc tggtaaggg 850

acaagtgaag agaacacttt ttacagttgg ctagaaggtc tctgtgtaga 900  
aaaaagagca ttctacagac ttatatctgg cctacatgca agcattaatg 950  
tgcatttgag tgcaagatat cttttacaag agacctgggt agaaaagaaa 1000  
tggggacaca acattacaga attcaacag cgatttgatg gaattttgac 1050  
tgaaggagaa ggtccaagaa ggcttaagaa cttgtatttt ctctacttaa 1100  
tagaactaag ggctttatcc aaagtgttac cattcttga gcgcccagat 1150  
ttcaactct ttactggaaa taaaattcag gatgaggaaa acaaatgtt 1200  
acttctggaa atacttcatg aatcaagtc attcctttg cattttgatg 1250  
agaattcatt ttttctggg gataaaaaag aagcacacaa actaaaggag 1300  
gactttcgac tgcattttag aatatattca agaattatgg attgtgttg 1350  
ttgtttaaa tgcgtctgt ggggaaagct tcagactcag ggtttgggca 1400  
ctgctctgaa gatcttattt tctgagaaat tgatagcaaa tatgccagaa 1450  
agtggaccta gttatgaatt ccatctaacc agacaagaaa tagtattcatt 1500  
attcaacgca ttggaagaa ttctacaag tgtgaaagaa ttagaaaact 1550  
tcaggaactt gttacagaat attcattaa gaaacaagc tgatatgtc 1600  
ctgtttctgg acaatggagg cgaaagagtg gaatttcatt caaaggcata 1650  
atagcaatga cagtcttaag ccaaacattt tatataaagt tgcttttga 1700  
aaggagaatt atattgtttt aagtaaacac attttataaa attgtgttaa 1750  
gtctatgtat aatactactg tgagtaaaag taatacttta ataatgtgt 1800  
acaaatttta aagtttaata tgaataaaa ggaggattat caaataaaa 1850  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 1885

<210> 337

<211> 468

<212> PRT

<213> Homo sapiens

<400> 337

Met Gly Arg Gly Trp Gly Phe Leu Phe Gly Leu Leu Gly Ala Val  
1 5 10 15

Trp Leu Leu Ser Ser Gly His Gly Glu Glu Gln Pro Pro Glu Thr  
20 25 30

Ala Ala Gln Arg Cys Phe Cys Gln Val Ser Gly Tyr Leu Asp Asp  
35 40 45

Cys Thr Cys Asp Val Glu Thr Ile Asp Arg Phe Asn Asn Tyr Arg  
50 55 60

Leu Phe Pro Arg Leu Gln Lys Leu Leu Glu Ser Asp Tyr Phe Arg  
65 70 75

Tyr Tyr Lys Val Asn Leu Lys Arg Pro Cys Pro Phe Trp Asn Asp  
80 85 90

Ile Ser Gln Cys Gly Arg Arg Asp Cys Ala Val Lys Pro Cys Gln  
95 100 105

Ser Asp Glu Val Pro Asp Gly Ile Lys Ser Ala Ser Tyr Lys Tyr  
110 115 120

Ser Glu Glu Ala Asn Asn Leu Ile Glu Glu Cys Glu Gln Ala Glu  
125 130 135

Arg Leu Gly Ala Val Asp Glu Ser Leu Ser Glu Glu Thr Gln Lys  
140 145 150

Ala Val Leu Gln Trp Thr Lys His Asp Asp Ser Ser Asp Asn Phe  
155 160 165

Cys Glu Ala Asp Asp Ile Gln Ser Pro Glu Ala Glu Tyr Val Asp  
170 175 180

Leu Leu Leu Asn Pro Glu Arg Tyr Thr Gly Tyr Lys Gly Pro Asp  
185 190 195

Ala Trp Lys Ile Trp Asn Val Ile Tyr Glu Glu Asn Cys Phe Lys  
200 205 210

Pro Gln Thr Ile Lys Arg Pro Leu Asn Pro Leu Ala Ser Gly Gln  
215 220 225

Gly Thr Ser Glu Glu Asn Thr Phe Tyr Ser Trp Leu Glu Gly Leu  
230 235 240

Cys Val Glu Lys Arg Ala Phe Tyr Arg Leu Ile Ser Gly Leu His  
245 250 255

Ala Ser Ile Asn Val His Leu Ser Ala Arg Tyr Leu Leu Gln Glu  
260 265 270

Thr Trp Leu Glu Lys Lys Trp Gly His Asn Ile Thr Glu Phe Gln  
275 280 285

Gln Arg Phe Asp Gly Ile Leu Thr Glu Gly Glu Gly Pro Arg Arg  
290 295 300

Leu Lys Asn Leu Tyr Phe Leu Tyr Leu Ile Glu Leu Arg Ala Leu  
305 310 315

Ser Lys Val Leu Pro Phe Phe Glu Arg Pro Asp Phe Gln Leu Phe  
320 325 330

Thr Gly Asn Lys Ile Gln Asp Glu Glu Asn Lys Met Leu Leu Leu  
335 340 345

Glu Ile Leu His Glu Ile Lys Ser Phe Pro Leu His Phe Asp Glu  
350 355 360

Asn Ser Phe Phe Ala Gly Asp Lys Lys Glu Ala His Lys Leu Lys  
365 370 375

Glu Asp Phe Arg Leu His Phe Arg Asn Ile Ser Arg Ile Met Asp  
380 385 390

Cys Val Gly Cys Phe Lys Cys Arg Leu Trp Gly Lys Leu Gln Thr  
395 400 405

Gln Gly Leu Gly Thr Ala Leu Lys Ile Leu Phe Ser Glu Lys Leu  
410 415 420

Ile Ala Asn Met Pro Glu Ser Gly Pro Ser Tyr Glu Phe His Leu  
425 430 435



Thr Arg Gln Glu Ile Val Ser Leu Phe Asn Ala Phe Gly Arg Ile  
440 445 450

Ser Thr Ser Val Lys Glu Leu Glu Asn Phe Arg Asn Leu Leu Gln  
455 460 465

Asn Ile His

<210> 338  
<211> 507  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 101, 263, 376, 397, 426  
<223> unknown base

<400> 338  
gctggaaata tggatgcat ctacgagaaa ctgtttaag ccacagaca 50  
ttaaagacc tttaatcct tggcttctg gtcaaggac aagtgaagag 100  
nacactttt acagttgct agaaggtctc tgttagaaa aaagacatt 150  
ctacagact atatctggcc tacatgcaag cattaatgtg cattgagtg 200  
caagatatct ttacaagag acctggttag aaaagaaat gggacacaac 250  
attacagaat tnaacagcg atttgatgga atttgactg aaggagaagg 300  
tccaagaagg ctaagaact tgtatttct ctacttaata gaactaagg 350  
ctttatcaa agtgtacca ttctngagc gccagattt tcaactntt 400  
actggaaata aaattcagga tgaggnaaac aaaatgttac tttggaat 450  
acttcatgaa atcaagtc ttccttgca tttgatgag aattcattt 500  
tttgctg 507

<210> 339  
<211> 20  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 339

aagctgccgg agctgcaatg 20

<210> 340

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 340

ttgcttctta atcctgagcg c 21

<210> 341

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 341

aaaggaggac ttctgactgc 20

<210> 342

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 342

agagattcat ccaactgctcc aagtcg 26

<210> 343

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 343

tgtccagaaa caggcacata tcagc 25

<210> 344

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 344

agacagcggc acagaggtgc ttctgccagg ttagtggtta ctggatgat 50

<210> 345

<211> 1486

<212> DNA

<213> Homo sapiens

<400> 345

cggacgcgtg ggcggacgcg tgggcggacg cgtgggttgg gagggggcag 50

gatgggaggg aaagtgaaga aaacagaaaa ggagagggac agaggccaga 100

ggacttctca tactggacag aaaccgatca ggcatggaac tccccttctg 150

cactcacctg ttctgcccc tgggttctct gacaggtctc tgctcccct 200

ttaacctgga tgaacatcac ccacgcctat tcccagggcc accagaagct 250

gaatttgat acagtgtctt acaacatgtt gggggtggac agcgatggat 300

gctggtgggc gccccctggg atgggccttc aggcgaccgg aggggggacg 350

ttatcgctg ccctgtaggg ggggccaca atgccccatg tgccaagggc 400

cacttagtg actaccaact gggaaattca tctcatctg ctgtgaatat 450

gcacctgggg atgtctctgt tagagacaga tggatgagg ggattcatgg 500

tgagctaagg agagggtggt ggcagtgtct ctgaagggtcc ataaaagaaa 550

aaagagaagt gtgtaaggg aaaatggtct gtgtggaggg gtcaaggagt 600  
taaaaaccct agaaagcaaa aggtaggtaa tgtcaggag tagtcttcat 650  
gcctcctca actgggagca tgttctgagg gtgccctccc aagcctggga 700  
gtaactattt ccccatccc caggcctgtg ccctctctg gtctcgtgct 750  
tgtggcagct ctgtctttag ttctgggata tgtgcccggtg tggatgctc 800  
attccagcct caggaagcc tggcaccac tgccaacgt gagccagagg 850  
aaggctgagt acttggtcc cagaaggaga tactgggtgg gaaaaagatg 900  
gggcaaagcg gtatgatgcc tggcaaaggg cctgcatggc taccctcatt 950  
gctacctaata gtgcttgc aaagctccatg ttcttaaca gattcagact 1000  
cctggccagg tgtgtggcc cacacctgta attctagcac ttgggagggc 1050  
caaggtgggc agatcacttg aggtcaggag ttcaagacca gcctggccaa 1100  
catggtgaaa ctccatctct actaaaaaaaa aaaaaataca aaaattagct 1150  
gggtgcgcta gtgcatgct gtaatctcat ctactcggga ggctaagaca 1200  
ggagactctc acttcaacc aggaggtgga ggttgcggtg agccaagatt 1250  
gtgcctctgc actctagcgt gggtgacaga gtaagcgaga ctccatctca 1300  
aaaataataa taataataat tcagactcct taccaggagt ccatgatctg 1350  
gcctggcaca gtaactcatg cctgtaatcc caacatttg ggaggccaac 1400  
gcaggaggat tgcttgaggt ctggaggttt gagaccagcc tgggcaacat 1450  
agaaagacc catctctaaa taaatgttt aaaaat 1486

<210> 346

<211> 124

<212> PRT

<213> Homo sapiens

<400> 346

Met Glu Leu Pro Phe Val Thr His Leu Phe Leu Pro Leu Val Phe

1            5            10            15  
 Leu Thr Gly Leu Cys Ser Pro Phe Asn Leu Asp Glu His His Pro  
           20            25            30  
 Arg Leu Phe Pro Gly Pro Pro Glu Ala Glu Phe Gly Tyr Ser Val  
           35            40            45  
 Leu Gln His Val Gly Gly Gly Gln Arg Trp Met Leu Val Gly Ala  
           50            55            60  
 Pro Trp Asp Gly Pro Ser Gly Asp Arg Arg Gly Asp Val Tyr Arg  
           65            70            75  
 Cys Pro Val Gly Gly Ala His Asn Ala Pro Cys Ala Lys Gly His  
           80            85            90  
 Leu Gly Asp Tyr Gln Leu Gly Asn Ser Ser His Pro Ala Val Asn  
           95            100            105  
 Met His Leu Gly Met Ser Leu Leu Glu Thr Asp Gly Asp Gly Gly  
          110            115            120  
 Phe Met Val Ser

<210> 347  
 <211> 509  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 22  
 <223> unknown base

<400> 347  
 cacagtccc caccatcact cntccattc cttccaactt tatttttagc 50  
 ttgccattgg gagggggcag gatgggaggg aaagtgaaga aaacagaaaa 100  
 ggagaggac agaggccaga ggacttctca tactggacag aaaccgatca 150  
 ggcatggaac tccccttctg cactcacctg ttcttgcccc tgggttctct 200

gacaggtctc tgetccccct ttaacctgga tgaacatcac ccacgcctat 250

tcccagggcc accagaagct gaatttggat acagtgtctt acaacatggt 300

gggggtggac agcgatggat gctgggtgggc gccccctggg atgggccttc 350

aggcgaccgg agggggggacg ttatcgctg ccctgtaggg ggggccaca 400

atgccccatg tgccaagggc cacttagtg actaccaact gggaaattca 450

tctcatcctg ctgtgaatat gcacctgggg atgtctctgt tagagacaga 500

tggtgatgg 509

<210> 348

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 348

agggacagag gccagaggac ttc 23

<210> 349

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 349

caggtgcata ttcacagcag gatg 24

<210> 350

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 350

ggaactcccc ttcgtcactc acctgttctt gccctcgtg ttct 45

<210> 351

<211> 2056

<212> DNA

<213> Homo sapiens

<400> 351

aaagttacat tttctctgga actctcctag gccactcct gctgatgcaa 50

catctgggtt tgggcagaaa ggagggtgct tcggagcccg cctttctga 100

gcttctggg ccggctctag aacaattcag gcttcgctgc gactcagacc 150

tcagctccaa catatgcatt ctgaagaaag atggctgaga tggacagaat 200

gctttatfff ggaaagaaac aatgttctag gtcaactga gtctacaaa 250

tgcagacttt cacaatggtt ctagaagaaa tctggacaag tctttcatg 300

tggttttct acgcattgat tccatgtttg ctcacagatg aagtggccat 350

tctgcctgcc cctcagaacc tctctgtact ctcaaccaac atgaagcatc 400

tcttgatgag gagccagtg atcgcgctg gagaaacagt gtactattct 450

gtcgaatacc agggggagta cgagagcctg tacacgagcc acatctggat 500

ccccagcagc tgggtctcac tcaactgaagg tcttgagtgt gatgtcactg 550

atgacatcac ggccactgtg ccatacaacc ttcgtgtcag ggccacattg 600

ggctcacaga cctcagcctg gagcatcctg aagcatcctt ttaatagaaa 650

ctcaaccatc cttaccggac ctgggatgga gatcacaaa gatggcttcc 700

acctggttat tgagctggag gacctggggc cccagtttga gttccttg 750

gcctactgga ggaggagacc tgggtccgag gaacatgtca aaatggtgag 800

gagtgggggt attccagtgc acctagaaac caiggagcca ggggctgcat 850

actgtgtgaa ggcccagaca ttcgtgaagg ccattgggag gtacagcgcc 900

ttcagccaga cagaatgtgt ggaggtgcaa ggagaggcca ttcccctggt 950

actggccctg ttgcctttg ttggcttcat gctgacctt gtggtcgtgc 1000  
cactgttcgt ctggaaaatg ggccggctgc tccagtactc ctgttgcccc 1050  
gtggtgtgcc tcccagacac ctgaaaata accaattcac cccagaagt 1100  
aatcagctgc agaagggagg aggtggatgc ctgtgccacg gctgtgatgt 1150  
ctcctgagga actcctcagg gcctggatct cataggttg cggaagggcc 1200  
caggtgaagc cgagaacctg gtctgcatga catggaaacc atgaggggac 1250  
aagttgtgtt tctgtttcc gccacggaca agggatgaga gaagtaggaa 1300  
gagcctgttg tctacaagtc tagaagcaac catcagaggc aggggtgttt 1350  
gtctaacaga aactgactg aggccttaggg gatgtgacct ctgactggg 1400  
ggctgccact tgctggctga gcaaccctgg gaaaagtgc tcatccctt 1450  
cggtcctaag ttttctatc tgtaatggg gaattaccta cacacctgct 1500  
aaacacacac acacagagtc tctctctata tatacacacg tacacataaa 1550  
tacaccagc acttgcaagg ctgaggggaa actggtgaca ctctacagtc 1600  
tgactgattc agtgtttctg gagagcagga cataaatgta tgatgagaat 1650  
gatcaaggac tctacacact ggggtggctg gagagcccac tttcccagaa 1700  
taatccttga gagaaaagga atcatgggag caatggtgtt gagttcactt 1750  
caagcccaat gccggtgcag aggggaatgg cttagcgagc tctacagtag 1800  
gtgacctgga ggaaggtcac agccacactg aaaatgggat gtgcatgaac 1850  
acggaggatc catgaactac tgtaaagtgt tgacagtgtg tgcacactgc 1900  
agacagcagg tgaaatgtat gtgtgcaatg cgacgagaat gcagaagtca 1950  
gtaacatgtg catgtttgtt gtgctccttt tttctgttgg taaagtacag 2000  
aattcagcaa ataaaaagg ccaccctggc caaaagcggg aaaaaaaaaa 2050  
aaaaaa 2056



<210> 352  
<211> 311  
<212> PRT  
<213> Homo sapiens

<400> 352

Met Gln Thr Phe Thr Met Val Leu Glu Glu Ile Trp Thr Ser Leu  
1 5 10 15

Phe Met Trp Phe Phe Tyr Ala Leu Ile Pro Cys Leu Leu Thr Asp  
20 25 30

Glu Val Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser  
35 40 45

Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro  
50 55 60

Gly Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu  
65 70 75

Ser Leu Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser  
80 85 90

Leu Thr Glu Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala  
95 100 105

Thr Val Pro Tyr Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln  
110 115 120

Thr Ser Ala Trp Ser Ile Leu Lys His Pro Phe Asn Arg Asn Ser  
125 130 135

Thr Ile Leu Thr Arg Pro Gly Met Glu Ile Thr Lys Asp Gly Phe  
140 145 150

His Leu Val Ile Glu Leu Glu Asp Leu Gly Pro Gln Phe Glu Phe  
155 160 165

Leu Val Ala Tyr Trp Arg Arg Glu Pro Gly Ala Glu Glu His Val  
170 175 180

Lys Met Val Arg Ser Gly Gly Ile Pro Val His Leu Glu Thr Met  
185 190 195

Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala Gln Thr Phe Val Lys  
200 205 210

Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr Glu Cys Val Glu  
215 220 225

Val Gln Gly Glu Ala Ile Pro Leu Val Leu Ala Leu Phe Ala Phe  
230 235 240

Val Gly Phe Met Leu Ile Leu Val Val Val Pro Leu Phe Val Trp  
245 250 255

Lys Met Gly Arg Leu Leu Gln Tyr Ser Cys Cys Pro Val Val Val  
260 265 270

Leu Pro Asp Thr Leu Lys Ile Thr Asn Ser Pro Gln Lys Leu Ile  
275 280 285

Ser Cys Arg Arg Glu Glu Val Asp Ala Cys Ala Thr Ala Val Met  
290 295 300

Ser Pro Glu Glu Leu Leu Arg Ala Trp Ile Ser  
305 310

<210> 353  
<211> 864  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 654, 711, 748, 827  
<223> unknown base

<400> 353  
tctgctgat gcacatctgg gtttgcaaa aggaggttgc ttcgagccgc 50  
cctttctagc ttctggccg gctctagaac aattcaggct tcgctgac 100  
tagacctcag ctccaacata tgcattctga agaaagatgg ctgagatgac 150  
agaatgcttt attttgaaa gaaacaatgt tctaggtcaa actgagtcta 200  
ccaaatgcag actttcaciaa tggttctaga agaaatctgg acaagtcttt 250

tcatgtggtt ttctacgca ttgattccat gtttgctcac agatgaagtg 300  
gccattctgc ctgccctca gaacctctct gtactctcaa ccaacatgaa 350  
gcactctctg atgtggagcc cagtgatcgc gcctggagaa acagtgtact 400  
attctgtcga ataccagggg gagtacgaga gcctgtacac gagccacatc 450  
tggatcccca gcagctggtg ctactcact gaaggtcctg agtgtgatgt 500  
cactgatgac atcacggcca ctgtgccata caacctttgt gtcagggcca 550  
cattgggctc acagacctca gcctggagca tctgaagca tcccttaat 600  
agaaactcaa ccatccttac ccgacctggg atggagatca ccaaagatgg 650  
cttncacctg gttattgagc tggaggacct ggggccccag tttgagttcc 700  
ttgtggccta ntggaggagg ggcgaacccc ttgcggcgca aggggttngc 750  
gaacccttg cggccgctgg ggtatctctc gagaaaagag aggccaata 800  
tgaccacat actcaatag gacgaantgc tattgtccac ctgtttgagt 850  
ggcgctgggt tgat 864

<210> 354  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 354  
aggcttcgct gcgactagac ctc 23

<210> 355  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 355  
ccaggtcggg taaggatggt tgag 24

<210> 356  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 356  
tttctacga ttgattccat gtttgctcac agatgaagtg gccattctgc 50

<210> 357  
<211> 1670  
<212> DNA  
<213> Homo sapiens

<400> 357  
cccacgcgtc cgcccacgcg tccgagggac aagagagaag agagactgaa 50  
acaggagaaa gaggcaggag aggaggaggt ggggagagca cgaagctgga 100  
ggccgacact gagggagggc gggaggaggt gaagaaggag agaggggaga 150  
agaggcagga gctggaaagg agagagggag gaggaggagg agatgcggga 200  
tggagacctg gagttaggtg gcttgggaga gcttaatgaa aagagaacgg 250  
agaggaggtg tgggttagga accaagaggt agccctgtgg gcagcagaag 300  
gctgagagga gtaggaagat caggagctag agggagactg gagggttccg 350  
ggaaaagagc agaggaaaga ggaaagacac agagagacgg gagagagaag 400  
aagatgggtt tgaagggcg gatctcagtc cctggctgct ttggcatttg 450  
gggaactggg actccctgtg gggaggagag gaaagctgga agtcctggag 500  
ggacagggtc ccagaaggag gggacagagg agctgagaga ggggggcagg 550  
gcgttgggca ggggtccctc ggaggcctcc tggggatggg ggctgcagct 600  
cgtctgagcg ccctcagagc gctggtactc tgggctgcac tgggggcagc 650

agctcacatc ggaccagcac ctgaccccgga ggactggtgg agctacaagg 700  
ataatctcca gggaaacttc gtgccagggc ctcctttctg gggcctggtg 750  
aatgcagcgt ggagtctgtg tgctgtgggg aagcggcaga gccccgtgga 800  
tgtggagctg aagaggggtc ttatgaccc ctttctgccc ccattaaggc 850  
tcagcactgg aggagagaag ctccggggaa ccttgtaaa caccggccga 900  
catgtctct tctgcctgc accccgacct gtggtcaatg tgtctggagg 950  
tccccctct tacagccacc gactcagtga actgcggctg ctgtttggag 1000  
ctcgcgacgg agccggetcg gaacatcaga tcaaccacca gggcttctct 1050  
gctgaggtgc agctcattca ctcaaccag gaactctag ggaattcag 1100  
cgctgcctcc cgcggcccca atggcctggc cattctcagc ctctttgtca 1150  
acgttgccag tacctctaac ccattctca gtcgcctct taaccgac 1200  
accatcactc gcattctca caagaatgat gcctacttc ttcaagacct 1250  
gagcctggag ctctgttcc ctgaatcctt cggettcatc acctatcagg 1300  
gctctctcag caccgccc tgctccgaga ctgtcacctg gatcctcatt 1350  
gaccgggccc tcaatatcac ctccctcag atgcactccc tgagactcct 1400  
gagccagaat cctccatctc agatcttcca ggcctcagc ggtaacagcc 1450  
ggccccctgca gcccttgcc cacagggcac tgaggggcaa cagggacccc 1500  
cggcaccgag agagggcgtg ccgaggcccc aactaccgcc tgcattgtga 1550  
tggtgtcccc catggtcgt gagactcccc ttcgaggatt gcaccgccc 1600  
gtcctaagcc tccccacaag gcgaggggag ttaccctaa aacaaagcta 1650  
ttaaaggac agaatactta 1670

<210> 358  
<211> 328  
<212> PRT

<213> Homo sapiens

<400> 358

Met Gly Ala Ala Ala Arg Leu Ser Ala Pro Arg Ala Leu Val Leu  
1 5 10 15

Trp Ala Ala Leu Gly Ala Ala Ala His Ile Gly Pro Ala Pro Asp  
20 25 30

Pro Glu Asp Trp Trp Ser Tyr Lys Asp Asn Leu Gln Gly Asn Phe  
35 40 45

Val Pro Gly Pro Pro Phe Trp Gly Leu Val Asn Ala Ala Trp Ser  
50 55 60

Leu Cys Ala Val Gly Lys Arg Gln Ser Pro Val Asp Val Glu Leu  
65 70 75

Lys Arg Val Leu Tyr Asp Pro Phe Leu Pro Pro Leu Arg Leu Ser  
80 85 90

Thr Gly Gly Glu Lys Leu Arg Gly Thr Leu Tyr Asn Thr Gly Arg  
95 100 105

His Val Ser Phe Leu Pro Ala Pro Arg Pro Val Val Asn Val Ser  
110 115 120

Gly Gly Pro Leu Leu Tyr Ser His Arg Leu Ser Glu Leu Arg Leu  
125 130 135

Leu Phe Gly Ala Arg Asp Gly Ala Gly Ser Glu His Gln Ile Asn  
140 145 150

His Gln Gly Phe Ser Ala Glu Val Gln Leu Ile His Phe Asn Gln  
155 160 165

Glu Leu Tyr Gly Asn Phe Ser Ala Ala Ser Arg Gly Pro Asn Gly  
170 175 180

Leu Ala Ile Leu Ser Leu Phe Val Asn Val Ala Ser Thr Ser Asn  
185 190 195

Pro Phe Leu Ser Arg Leu Leu Asn Arg Asp Thr Ile Thr Arg Ile  
200 205 210

Ser Tyr Lys Asn Asp Ala Tyr Phe Leu Gln Asp Leu Ser Leu Glu  
215 220 225

Leu Leu Phe Pro Glu Ser Phe Gly Phe Ile Thr Tyr Gln Gly Ser  
230 235 240

Leu Ser Thr Pro Pro Cys Ser Glu Thr Val Thr Trp Ile Leu Ile  
245 250 255

Asp Arg Ala Leu Asn Ile Thr Ser Leu Gln Met His Ser Leu Arg  
260 265 270

Leu Leu Ser Gln Asn Pro Pro Ser Gln Ile Phe Gln Ser Leu Ser  
275 280 285

Gly Asn Ser Arg Pro Leu Gln Pro Leu Ala His Arg Ala Leu Arg  
290 295 300

Gly Asn Arg Asp Pro Arg His Pro Glu Arg Arg Cys Arg Gly Pro  
305 310 315

Asn Tyr Arg Leu His Val Asp Gly Val Pro His Gly Arg  
320 325

<210> 359

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 359

tctgctgagg tgcagctcat tcac 24

<210> 360

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 360

gaggctctgg aagatctgag atgg 24

<210> 361  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 361  
gcctcttgt caacgtgcc agtacctta acccattcct cagtcgctc 50

<210> 362  
<211> 3038  
<212> DNA  
<213> Homo sapiens

<400> 362  
ggcgcctggt tctgdcgta ctggctgtac ggagcaggag caagaggctg 50  
ccgccagcct ccgccgccga gcctcgttcg tgtccccgcc cctcgtcct 100  
gcagctactg ctcagaaacg ctggggcgcc caccctggca gactaacgaa 150  
gcagctcct tcccaccca actgcaggtc taattttgga cgctttgcct 200  
gccattctt ccaggttgag ggagccgcag aggcgaggc tcgcgtattc 250  
ctgcagtcag cacccacgtc gccccggac gctcgggtgct caggccctc 300  
gcgagcgggg ctctccgtct gcggtccctt gtgaaggctc tgggcggctg 350  
cagaggccgg ccgtccggtt tggtcacct ctcccaggaa acttcacact 400  
ggagagccaa aaggagtgga agagcctgtc ttggagattt tctggggaa 450  
atcctgaggt cattcattat gaagtgtacc gcgcgggagt ggctcagagt 500  
aaccacagtg ctgttcatgg ctagagcaat tccagccatg gtggttccca 550  
atgccacttt attggagaaa cttttgaaa aatacatgga tgaggatggt 600  
gagtgggtgga tagccaaaca acgagggaaa agggccatca cagacaatga 650  
catgcagagt attttgacc ttcataataa attacgaagt caggtgtatc 700



caacagcctc taatatggag tatatgacat gggatgtaga gctggaaaga 750  
tctgcagaat cctgggctga aagttgcttg tgggaacatg gacctgcaag 800  
cttgcttcca tcaattggac agaatttggg agcacactgg ggaagatata 850  
ggccccgac gtttcatgta caatcgtggt atgatgaagt gaaagacttt 900  
agctacccat atgaacatga atgcaacca tattgtccat tcaggtgttc 950  
tggccctgta tgtacacatt atacacaggt cgtgtgggca actagtaaca 1000  
gaatcgggtg tgccattaat ttgtgcata acatgaacat ctgggggcag 1050  
atatggccca aagctgtcta cctggtgtgc aattactccc caaagggaaa 1100  
ctggtggggc catgcccctt acaaacatgg gcggccctgt tctgcttgc 1150  
cacctagttt tgaggggggc tgtagagaaa atctgtgcta caaagaagg 1200  
tcagacaggt attatcccc tcgagaagag gaaacaaatg aaatagaacg 1250  
acagcagtca caagtccatg acacccatgt ccggacaaga tcagatgata 1300  
gtagcagaaa tgaagtcata agcgcacagc aaatgtccca aattgtttct 1350  
tgtgaagtaa gattaagaga tcagtgcaaa ggaacaacct gcaataggta 1400  
cgaatgtcct gctggctgtt tggatagtaa agctaaagtt attggcagt 1450  
tacattatga aatgcaatcc agcatctgta gagctgcaat tcattatggt 1500  
ataatagaca atgatggtgg ctgggtagat atcactagac aaggaagaaa 1550  
gcattatttc atcaagtcca atagaaatgg tattcaaca attggcaaat 1600  
atcagctgc taattccttc acagtctcta aagtaacagt tcaggctgtg 1650  
acttgtaaaa caactgtgga acagctctgt ccattcata agcctgcttc 1700  
acattgccca agagtatact gtccctgtaa ctgtatgcaa gcaaatccac 1750  
attatgctcg tgtaattgga actcgagttt attctgatct gtccagtatc 1800  
tgcagagcag cagtacatgc tggagtgggt cgaaatcacg gtggttatgt 1850

tgatgtaatg cctgtggaca aaagaaagac ctacattgct tcttttcaga 1900  
atggaatcct ctcagaaagt ttacagaatc ctccaggagg aaaggcattc 1950  
agagtgttg ctgttggtg aaactgaata cttggaagag gaccataaag 2000  
actattccaa atgcaatatt tctgaattht gtataaaact gtaacattac 2050  
tgtacagagt acatcaacta ttttcagccc aaaaagggtgc caaatgcata 2100  
taaacttga taaacaaagt ctataaaata aaacatggga cattagcttt 2150  
gggaaaagta atgaaaatat aatggthta gaaatcctgt gthaaatatt 2200  
gctatattt ctagcagtt atttctacag ttaattacat agtcatgatt 2250  
gttctacgtt tcatatatta tatggtgctt tgtatatgcc actaataaaa 2300  
tgaatctaaa cattgaatgt gaatggcct cagaaaatca tctagtgcatt 2350  
ttaaataaa tcgactctaa aactgaaaga aacctatca cattttcccc 2400  
agtcaatgc tatgccatta ccaactccaa ataactcaa ataattttcc 2450  
acttaataac tgtaaagtt ttttctgta atttaggcat atagaatatt 2500  
aaattctgat attgcacttc ttattttata taaaataatc ctthaatatc 2550  
caaatgaatc gthaaatg tttgattcct tgggaatggc ctthaaaata 2600  
aatgtaataa agtcagatg gtggtatgaa aacattccta gtgatcatgt 2650  
agthaaatgta gggthaaagca tggacagcca gagctttcta tgtactgta 2700  
aaattgaggt cacatattt cttttgtatc ctggcaaata ctctgcagg 2750  
ccaggaagta taatagcaaa aagthgaaca aagatgaact aatgtattac 2800  
attaccattg ccaactgattt tttthaaatg gthaaatgacc ttgtatataa 2850  
atattgccat atcatggtac ctataatggt gatattttg tttctatgaa 2900  
aaatgtattg tgcttgata ctaaaaatct gthaaatggt agthtttgta 2950  
atthttttc tgctggtgga tttacatatt aaatthttc tgctggtgga 3000

taaacattaa aattaatcat gtttcaaaaa aaaaaaaaa 3038

<210> 363

<211> 500

<212> PRT

<213> Homo sapiens

<400> 363

Met Lys Cys Thr Ala Arg Glu Trp Leu Arg Val Thr Thr Val Leu  
1 5 10 15

Phe Met Ala Arg Ala Ile Pro Ala Met Val Val Pro Asn Ala Thr  
20 25 30

Leu Leu Glu Lys Leu Leu Glu Lys Tyr Met Asp Glu Asp Gly Glu  
35 40 45

Trp Trp Ile Ala Lys Gln Arg Gly Lys Arg Ala Ile Thr Asp Asn  
50 55 60

Asp Met Gln Ser Ile Leu Asp Leu His Asn Lys Leu Arg Ser Gln  
65 70 75

Val Tyr Pro Thr Ala Ser Asn Met Glu Tyr Met Thr Trp Asp Val  
80 85 90

Glu Leu Glu Arg Ser Ala Glu Ser Trp Ala Glu Ser Cys Leu Trp  
95 100 105

Glu His Gly Pro Ala Ser Leu Leu Pro Ser Ile Gly Gln Asn Leu  
110 115 120

Gly Ala His Trp Gly Arg Tyr Arg Pro Pro Thr Phe His Val Gln  
125 130 135

Ser Trp Tyr Asp Glu Val Lys Asp Phe Ser Tyr Pro Tyr Glu His  
140 145 150

Glu Cys Asn Pro Tyr Cys Pro Phe Arg Cys Ser Gly Pro Val Cys  
155 160 165

Thr His Tyr Thr Gln Val Val Trp Ala Thr Ser Asn Arg Ile Gly  
170 175 180

Cys Ala Ile Asn Leu Cys His Asn Met Asn Ile Trp Gly Gln Ile

185

190

195

Trp Pro Lys Ala Val Tyr Leu Val Cys Asn Tyr Ser Pro Lys Gly  
200 205 210

Asn Trp Trp Gly His Ala Pro Tyr Lys His Gly Arg Pro Cys Ser  
215 220 225

Ala Cys Pro Pro Ser Phe Gly Gly Gly Cys Arg Glu Asn Leu Cys  
230 235 240

Tyr Lys Glu Gly Ser Asp Arg Tyr Tyr Pro Pro Arg Glu Glu Glu  
245 250 255

Thr Asn Glu Ile Glu Arg Gln Gln Ser Gln Val His Asp Thr His  
260 265 270

Val Arg Thr Arg Ser Asp Asp Ser Ser Arg Asn Glu Val Ile Ser  
275 280 285

Ala Gln Gln Met Ser Gln Ile Val Ser Cys Glu Val Arg Leu Arg  
290 295 300

Asp Gln Cys Lys Gly Thr Thr Cys Asn Arg Tyr Glu Cys Pro Ala  
305 310 315

Gly Cys Leu Asp Ser Lys Ala Lys Val Ile Gly Ser Val His Tyr  
320 325 330

Glu Met Gln Ser Ser Ile Cys Arg Ala Ala Ile His Tyr Gly Ile  
335 340 345

Ile Asp Asn Asp Gly Gly Trp Val Asp Ile Thr Arg Gln Gly Arg  
350 355 360

Lys His Tyr Phe Ile Lys Ser Asn Arg Asn Gly Ile Gln Thr Ile  
365 370 375

Gly Lys Tyr Gln Ser Ala Asn Ser Phe Thr Val Ser Lys Val Thr  
380 385 390

Val Gln Ala Val Thr Cys Glu Thr Thr Val Glu Gln Leu Cys Pro  
395 400 405

Phe His Lys Pro Ala Ser His Cys Pro Arg Val Tyr Cys Pro Arg

410            415            420

Asn Cys Met Gln Ala Asn Pro His Tyr Ala Arg Val Ile Gly Thr

425            430            435

Arg Val Tyr Ser Asp Leu Ser Ser Ile Cys Arg Ala Ala Val His

440            445            450

Ala Gly Val Val Arg Asn His Gly Gly Tyr Val Asp Val Met Pro

455            460            465

Val Asp Lys Arg Lys Thr Tyr Ile Ala Ser Phe Gln Asn Gly Ile

470            475            480

Phe Ser Glu Ser Leu Gln Asn Pro Pro Gly Gly Lys Ala Phe Arg

485            490            495

Val Phe Ala Val Val

500

<210> 364

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 364

ggacagaatt tgggagcaca ctgg 24

<210> 365

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 365

ccaagatat actgtcctcg 20

<210> 366

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 366

agcacagatt ttcttacag ccccc 25

<210> 367

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 367

aaccactcca gcatgtactg ctgc 24

<210> 368

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 368

ccattcaggt gttctggccc tgatgtaca cattatacac aggtcgtgtg 50

<210> 369

<211> 1685

<212> DNA

<213> Homo sapiens

<400> 369

gcggagacaa ggcagagcg cagcgcacgg ccacagacag cctgggcat 50

ccaccgacgg cgcagccgga gccagcagag ccggaaggcg cgccccgggc 100

agagaaagcc gagcagagct gggtggcgtc tccgggccgc cgctccgacg 150

ggccagcgcc ctccccatgt ccctgctccc acgccgcgcc cctccggta 200

gcatgaggct cctggcggcc gcgtgctcc tgctgctgt ggcgctgtac 250

accgcgctg tggacgggtc caaatgcaag tgctcccgga agggacccaa 300  
gatccgctac agcgacgtga agaagctgga aatgaagcca aagtaccgc 350  
actgcgagga gaagatggtt atcatcacca ccaagagcgt gtccaggtac 400  
cgaggtcagg agcactgcct gcacccaag ctgcagagca ccaagcgctt 450  
catcaagtgg tacaacgcct ggaacgagaa gcgcagggtc tacgaagaat 500  
agggtgaaaa acctcagaag ggaaaactcc aaaccagttg ggagacttgt 550  
gcaaaggact ttgcagatta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 600  
aaaaaaaaaa aaagcctttc ttctcacag gcataagaca caaattatat 650  
attgttatga agcactttt accaacggtc agttttaca ttttatagct 700  
gcgtgcgaaa ggctccaga tgggagacc atctctttg tgctccagac 750  
ttcatcacag gctgctttt atcaaaaagg ggaaaactca tgcctttcct 800  
tttaaaaaa tgccttttg tattgtcca tacgtcacta tacatctgag 850  
ctttataagc gcccgggagg aacaatgagc ttggtggaca catttcattg 900  
cagtgttgc ccttcctag ctgggaagc ttccgcttag agtcctggc 950  
gcctcggcac agctgccacg ggctctctg ggcttatggc cggtcacagc 1000  
ctcagtgtga ctccacagtg gccctgtag ccgggcaagc aggagcaggt 1050  
ctctctgcat ctgtctctg aggaactcaa gtttggttc cagaaaaatg 1100  
tgcttcattc cccctggtt aattttaca caccctagga aacatttcca 1150  
agatcctgtg atggcgagac aatgatcct taaagaaggt gtggggtctt 1200  
tccaacctg aggattctg aaagggtcac aggttcaata ttaattgctt 1250  
cagaagcatg tgaggttccc aacctgtca gcaaaaacct taggagaaaa 1300  
cttaaaaaata tatgaataca tgcgcaatac acagctacag acacacattc 1350  
tgttgacaag ggaaaacctt caaagcatgt ttcttcctt caccacaaca 1400

gaacatgcag tactaaagca atatattgt gattcccat gtaattctc 1450

aatgttaaac agtgcagtcc tctttcgaaa gctaagatga ccatgcgcc 1500

tttctctgt acatataccc ttaagaacgc cccctccaca cactgcccc 1550

cagtatatgc cgcattgtac tgctgtgta tatgctatgt acatgtcaga 1600

aaccattagc attgcatgca ggtttcatat tctttctaag atggaaagta 1650

ataaaatata tttgaaatgt aaaaaaaaaa aaaaa 1685

<210> 370

<211> 111

<212> PRT

<213> Homo sapiens

<400> 370

Met Ser Leu Leu Pro Arg Arg Ala Pro Pro Val Ser Met Arg Leu  
1 5 10 15

Leu Ala Ala Ala Leu Leu Leu Leu Leu Ala Leu Tyr Thr Ala  
20 25 30

Arg Val Asp Gly Ser Lys Cys Lys Cys Ser Arg Lys Gly Pro Lys  
35 40 45

Ile Arg Tyr Ser Asp Val Lys Lys Leu Glu Met Lys Pro Lys Tyr  
50 55 60

Pro His Cys Glu Glu Lys Met Val Ile Ile Thr Thr Lys Ser Val  
65 70 75

Ser Arg Tyr Arg Gly Gln Glu His Cys Leu His Pro Lys Leu Gln  
80 85 90

Ser Thr Lys Arg Phe Ile Lys Trp Tyr Asn Ala Trp Asn Glu Lys  
95 100 105

Arg Arg Val Tyr Glu Glu  
110

<210> 371

<211> 22

<212> DNA



<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 371

cagegccctc cccatgtccc tg 22

<210> 372

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 372

tcccaactgg ttggagttt tccc 24

<210> 373

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 373

ctccggctc catgaggctc ctggcggccg ctgctctgc tgctg 45

<210> 374

<211> 3113

<212> DNA

<213> Homo sapiens

<400> 374

gccccaggga ctgctatggc ttcctttgtt gttcaccccg gctgctgca 50

tgtaaactc caatgtcctc ctgtggttaa ctgctcttgc catcaagttc 100

accctcattg acagccaagc acagtatcca gttgtcaaca caaattatgg 150

caaatccgg ggcctaagaa caccgttacc caatgagatc ttgggtccag 200

tggagcagta cttaggggtc ccctatgcct cccccccac tggagagagg 250

cggttcagc cccagaacc cccgtcctcc tggactggca tccgaaatac 300  
tactcagttt gctgctgtgt gccccagca cctggatgag agatccttac 350  
tgcatacat gctgcccatc tggttaccg ccaatttga tactttgatg 400  
acctatgttc aagatcaaaa tgaagactgc ctttacttaa acatctacgt 450  
gcccacggaa gatggagcca acacaaagaa aaacgcagat gatataacga 500  
gtaatgaccg tgggaagac gaagatattc atgatcagaa cagtaagaag 550  
cccgtcatgg tctatatcca tgggggatct tacatggagg gcaccggcaa 600  
catgattgac ggcagcattt tggcaagcta cggaaacgtc atcgtgatca 650  
ccattaacta ccgtctggga atactagggt tttaagtac cggtgaccag 700  
gcagcaaaag gcaactatgg gctcctggat cagattcaag cactgcggtg 750  
gattgaggag aatgtgggag cctttggcgg ggacccaag agagtgacca 800  
tctttggctc gggggctggg gcctcctgtg tcagcctgtt gaccctgtcc 850  
cactactcag aaggctcttt ccagaaggcc atcattcaga gcggcaccgc 900  
cctgtccagc tgggcagtga actaccagcc ggccaagtac actcggatat 950  
tggcagacia ggtcggctgc aacatgctgg acaccacgga catggtagaa 1000  
tgctgcgga acaagaacta caaggagctc atccagcaga ccatcacc 1050  
ggccacctac cacatagcct tcgggccggt gatcgacggc gacgtcatcc 1100  
cagacgacce ccagatcctg atggagcaag gcgagttcct caactacgac 1150  
atcatgctgg gctcaacca aggggaaggc ctgaagtctg tggacggcat 1200  
cgtggataac gaggacggtg tgacgcccaa cgactttgac ttctccgtgt 1250  
ccaacttctg ggacaacctt tacggctacc ctgaaggaa agacactttg 1300  
cgggagacta tcaagttcat gtacacagac tgggccgata aggaaaacc 1350  
ggagacgagg cggaacc 1400

tggccccgc cgtggccgcc gacctgcacg cgcagtagcg ctccccacc 1450

taettctatg cttctatca tcactgcca agcgaaatga agcccagctg 1500

ggcagattcg gcccatggtg atgaggtccc ctatgtcttc ggcacccca 1550

tgatcgggcc caccgagctc ttcagttgta acttttcaa gaacgacgtc 1600

atgctcagcg ccgtggatc gacctactgg acgaacttcg ccaaaaactgg 1650

tgatccaaat caaccagttc ctcaagatac caagttcatt cacacaaaac 1700

ccaaccgctt tgaagaagt gacctgtcca agtataatcc caaagaccag 1750

ctctatctgc atattggctt gaaaccaga gtgagagatc actaccgggc 1800

aacgaaagt gctttctggt tggaactcgt tctcatttg cacaactga 1850

acgagatatt ccagtatgtt tcaacaacca caaaggttcc tccaccagac 1900

atgacatcat ttcctatgg caccggcga tctcccgcca agatatggcc 1950

aaccacaaa cgcccagcaa tcaactctgc caacaatccc aaactctta 2000

aggacctca caaacaggg cctgaggaca caactgtcct cattgaaacc 2050

aaacgagatt attcaccga attaagtgc accattgccg tcggggcgtc 2100

gctcctcttc ctcaacatct tagcttttgc ggcgctgtac tacaaaaagg 2150

acaagaggcg ccatgagact cacaggcgcc ccagtccca gagaaacacc 2200

acaaatgata tcgctcatc ccagaacgaa gagatcatgt ctctgcagat 2250

gaagcagctg gaacacgac acgagtgtga gtcgctgcag gcacacgaca 2300

cactgaggct cacctgcccg ccagactaca cctcactgct gcgcccgtcg 2350

ccagatgaca tcccattat gacgccaac accatcacca tgattccaaa 2400

cacactgacg gggatgcage cttgacac tttaacacc ttcagtggag 2450

gacaaaacag tacaaattta cccacggac attcaccac tagagtatag 2500

ctttgccta tttccttcc tatcctctg cctaccgc tcagcaacat 2550

agaagagga aggaaagaga gaaggaaaga gagagagaaa gaaagtctcc 2600

agaccaggaa tgttttgc cactgactt aagacaaaaa tgcaaaaagg 2650

cagtcatccc atcccggcag acccttatcg ttggtgtttt ccagtattac 2700

aagatcaact tctgaccctg tgaatgtga gaagtacaca tttctgttaa 2750

aataactgct ttaagatctc taccactcca atcaatgttt agtgtgatag 2800

gacatcacca ttcaaggcc ccgggtgttt ccaacgtcat ggaagcagct 2850

gacactctg aaactcagcc aaggacactt gatattttt aattacaatg 2900

gaagttaaa catttcttc tgtccacac aatggatggc tctccttaag 2950

tgaagaaaga gtcaatgaga tttgccag cacatggagc tgtaatccag 3000

agagaaggaa acgtagaaat ttattattaa aagaatggac tgtgcagcga 3050

aatctgtacg gttctgtgca aagaggtgtt ttgccagcct gaactatatt 3100

taagagactt tgt 3113

<210> 375

<211> 816

<212> PRT

<213> Homo sapiens

<400> 375

Met Leu Asn Ser Asn Val Leu Leu Trp Leu Thr Ala Leu Ala Ile

1 5 10 15

Lys Phe Thr Leu Ile Asp Ser Gln Ala Gln Tyr Pro Val Val Asn

20 25 30

Thr Asn Tyr Gly Lys Ile Arg Gly Leu Arg Thr Pro Leu Pro Asn

35 40 45

Glu Ile Leu Gly Pro Val Glu Gln Tyr Leu Gly Val Pro Tyr Ala

50 55 60

Ser Pro Pro Thr Gly Glu Arg Arg Phe Gln Pro Pro Glu Pro Pro

65 70 75

Ser Ser Trp Thr Gly Ile Arg Asn Thr Thr Gln Phe Ala Ala Val  
80 85 90

Cys Pro Gln His Leu Asp Glu Arg Ser Leu Leu His Asp Met Leu  
95 100 105

Pro Ile Trp Phe Thr Ala Asn Leu Asp Thr Leu Met Thr Tyr Val  
110 115 120

Gln Asp Gln Asn Glu Asp Cys Leu Tyr Leu Asn Ile Tyr Val Pro  
125 130 135

Thr Glu Asp Gly Ala Asn Thr Lys Lys Asn Ala Asp Asp Ile Thr  
140 145 150

Ser Asn Asp Arg Gly Glu Asp Glu Asp Ile His Asp Gln Asn Ser  
155 160 165

Lys Lys Pro Val Met Val Tyr Ile His Gly Gly Ser Tyr Met Glu  
170 175 180

Gly Thr Gly Asn Met Ile Asp Gly Ser Ile Leu Ala Ser Tyr Gly  
185 190 195

Asn Val Ile Val Ile Thr Ile Asn Tyr Arg Leu Gly Ile Leu Gly  
200 205 210

Phe Leu Ser Thr Gly Asp Gln Ala Ala Lys Gly Asn Tyr Gly Leu  
215 220 225

Leu Asp Gln Ile Gln Ala Leu Arg Trp Ile Glu Glu Asn Val Gly  
230 235 240

Ala Phe Gly Gly Asp Pro Lys Arg Val Thr Ile Phe Gly Ser Gly  
245 250 255

Ala Gly Ala Ser Cys Val Ser Leu Leu Thr Leu Ser His Tyr Ser  
260 265 270

Glu Gly Leu Phe Gln Lys Ala Ile Ile Gln Ser Gly Thr Ala Leu  
275 280 285

Ser Ser Trp Ala Val Asn Tyr Gln Pro Ala Lys Tyr Thr Arg Ile  
290 295 300

Leu Ala Asp Lys Val Gly Cys Asn Met Leu Asp Thr Thr Asp Met  
305 310 315

Val Glu Cys Leu Arg Asn Lys Asn Tyr Lys Glu Leu Ile Gln Gln  
320 325 330

Thr Ile Thr Pro Ala Thr Tyr His Ile Ala Phe Gly Pro Val Ile  
335 340 345

Asp Gly Asp Val Ile Pro Asp Asp Pro Gln Ile Leu Met Glu Gln  
350 355 360

Gly Glu Phe Leu Asn Tyr Asp Ile Met Leu Gly Val Asn Gln Gly  
365 370 375

Glu Gly Leu Lys Phe Val Asp Gly Ile Val Asp Asn Glu Asp Gly  
380 385 390

Val Thr Pro Asn Asp Phe Asp Phe Ser Val Ser Asn Phe Val Asp  
395 400 405

Asn Leu Tyr Gly Tyr Pro Glu Gly Lys Asp Thr Leu Arg Glu Thr  
410 415 420

Ile Lys Phe Met Tyr Thr Asp Trp Ala Asp Lys Glu Asn Pro Glu  
425 430 435

Thr Arg Arg Lys Thr Leu Val Ala Leu Phe Thr Asp His Gln Trp  
440 445 450

Val Ala Pro Ala Val Ala Ala Asp Leu His Ala Gln Tyr Gly Ser  
455 460 465

Pro Thr Tyr Phe Tyr Ala Phe Tyr His His Cys Gln Ser Glu Met  
470 475 480

Lys Pro Ser Trp Ala Asp Ser Ala His Gly Asp Glu Val Pro Tyr  
485 490 495

Val Phe Gly Ile Pro Met Ile Gly Pro Thr Glu Leu Phe Ser Cys  
500 505 510

Asn Phe Ser Lys Asn Asp Val Met Leu Ser Ala Val Val Met Thr  
515 520 525

Tyr Trp Thr Asn Phe Ala Lys Thr Gly Asp Pro Asn Gln Pro Val  
530 535 540

Pro Gln Asp Thr Lys Phe Ile His Thr Lys Pro Asn Arg Phe Glu  
545 550 555

Glu Val Ala Trp Ser Lys Tyr Asn Pro Lys Asp Gln Leu Tyr Leu  
560 565 570

His Ile Gly Leu Lys Pro Arg Val Arg Asp His Tyr Arg Ala Thr  
575 580 585

Lys Val Ala Phe Trp Leu Glu Leu Val Pro His Leu His Asn Leu  
590 595 600

Asn Glu Ile Phe Gln Tyr Val Ser Thr Thr Thr Lys Val Pro Pro  
605 610 615

Pro Asp Met Thr Ser Phe Pro Tyr Gly Thr Arg Arg Ser Pro Ala  
620 625 630

Lys Ile Trp Pro Thr Thr Lys Arg Pro Ala Ile Thr Pro Ala Asn  
635 640 645

Asn Pro Lys His Ser Lys Asp Pro His Lys Thr Gly Pro Glu Asp  
650 655 660

Thr Thr Val Leu Ile Glu Thr Lys Arg Asp Tyr Ser Thr Glu Leu  
665 670 675

Ser Val Thr Ile Ala Val Gly Ala Ser Leu Leu Phe Leu Asn Ile  
680 685 690

Leu Ala Phe Ala Ala Leu Tyr Tyr Lys Lys Asp Lys Arg Arg His  
695 700 705

Glu Thr His Arg Arg Pro Ser Pro Gln Arg Asn Thr Thr Asn Asp  
710 715 720

Ile Ala His Ile Gln Asn Glu Glu Ile Met Ser Leu Gln Met Lys  
725 730 735

Gln Leu Glu His Asp His Glu Cys Glu Ser Leu Gln Ala His Asp  
740 745 750

Thr Leu Arg Leu Thr Cys Pro Pro Asp Tyr Thr Leu Thr Leu Arg  
755 760 765

Arg Ser Pro Asp Asp Ile Pro Leu Met Thr Pro Asn Thr Ile Thr  
770 775 780

Met Ile Pro Asn Thr Leu Thr Gly Met Gln Pro Leu His Thr Phe  
785 790 795

Asn Thr Phe Ser Gly Gly Gln Asn Ser Thr Asn Leu Pro His Gly  
800 805 810

His Ser Thr Thr Arg Val  
815

<210> 376

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 376

ggcaagctac ggaaacgtca tcgtg 25

<210> 377

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 377

aacccccgag ccaaagatg gtcac 25

<210> 378

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe



<400> 378

gtaccggtga ccaggcagca aaaggcaact atgggctcct ggatcag 47

<210> 379

<211> 2461

<212> DNA

<213> Homo sapiens

<400> 379

gggaaagatg gcggcgactc tgggaccct tgggtcgtgg cagcagtggc 50

ggcgatgttt gtcggctcgg gatgggtcca ggatgttact ccttcttctt 100

ttgttgggggt ctgggcaggg gccacagcaa gtcggggcgg gtcaaactgt 150

cgagtacttg aaacgggagc actcgctgtc gaagccctac cagggtgtgg 200

gcacaggcag ttcctcactg tggaatctga tgggcaatgc catggtgatg 250

accagtata tccgccttac cccagatatg caaagtaaac agggtgcctt 300

gtggaaccgg gtgcatgtt tctgagaga ctgggagttg caggtgcact 350

tcaaaatcca tggacaagga aagaagaatc tgcattggga tggcttggca 400

atctgttaca caaaggatcg gatgcagcca gggcctgtgt ttggaacat 450

ggacaaattt gtgggctgg gagtatttgt agacacctac cccaatgagg 500

agaagcagca agagcgggta ttccctaca tctcagccat ggtgaacaac 550

ggctccctca gctatgatca tgagcgggat gggcggccta cagagctggg 600

aggctgcaca gccattgtcc gcaatctca ttacgacacc ttctgtgtga 650

ttcgctacgt caagaggcat ttgacgataa tgatggatat tgatggcaag 700

catgagtgga gggactgcat tgaagtgcc ggagtccgcc tgccccgcgg 750

ctactacttc ggcacctct ccatcactgg ggatctctca gataatcatg 800

atgtcatttc cttgaagttg tttgaactga cagtggagag aaccccagaa 850

gaggaaaagc tccatcgaga tgtgttcttg ccctcagtgg acaatatgaa 900

gctgcctgag atgacagctc cactgccgcc cctgagtggc ctggccctct 950

tcctcatcgt cttttctcc ctggtgttt ctgtattgc catagtcatt 1000

ggtatcatac tctacaaca atggcaggaa cagagccgaa agcgcttcta 1050

ctgagccctc ctgctgccac cacttttgct actgtcacc atgaggtatg 1100

gaaggagcag gactggcct gagcatgcag cctggagagt gttctgtct 1150

ctagcagctg gttggggact atattctgtc actggagttt tgaatgcagg 1200

gaccccgcat tcccatggtt gtgcatgggg acatctaact ctggtctggg 1250

aagccacca cccagggca atgctgctgt gatgtgcctt tcctgcagt 1300

ccttccatgt gggagcagag gtgtgaagag aatttacgtg gttgtgatgc 1350

caaatcaca gaacagaatt tcatagcca ggctgccgtg ttgttgact 1400

cagaaggccc ttctactca gtttgaatc cacaagaat taaaactgg 1450

taacaccaca ggcttctga ccatccattc gttgggttt gcattgacc 1500

caaccctcg cctacctgag gagcttctt tggaaccag gatggaaact 1550

tcttcctgc cttacctc ttctactca ttcatgtcc tctctgtgtg 1600

caacctgagc tgggaaaggc attggatgc ctctctgtt gggcctgggg 1650

ctgcagaaca cacctgcgtt tcactggcct tcattagtg gcctagggga 1700

gatggcttc tgcttggat cactgtccc tagcatgggt cttgggtcta 1750

ttggcatgtc catggcctc ccaatcaagt ctctcagge cctcagtga 1800

gtttggctaa aggttgggtg aaaaatcaag agaagcctgg aagacatcat 1850

ggatgccatg gattagctgt gcaactgacc agctccaggt ttgatcaaac 1900

caaaagcaac attgtcatg tggctgacc atgtggagat gttctggac 1950

ttgctagagc ctgcttagct gcatgtttg tagttacgat ttttgaatc 2000

ccactttgag tgctgaaagt gtaaggaagc ttctctta caccttgggc 2050

ttggatattg cccagagaag aaatttggt ttttttct taatggacaa 2100

gagacagttg ctgttctcat gttccaagtc tgagagcaac agaccctcat 2150

catctgtgcc tggaaagatt cactgtcatt gagcagcaca gcctgagtgc 2200

tggcctctgt caacccttat tccactgcct tatttgacaa ggggttacat 2250

gctgctcacc ttactgcctt gggattaat cagttacagg ccagagtctc 2300

cttgaggggc ctggaactct gactcctct atgaacctct gtaccctaaa 2350

tgaaattctt aaaatcaccg atggaaccaa aaaaaaaaaa aaaaaggcg 2400

gccgcgactc tagagtcgac ctgcagtagg gataacaggg taataagctt 2450

ggccgcatg g 2461

<210> 380

<211> 348

<212> PRT

<213> Homo sapiens

<400> 380

Met Ala Ala Thr Leu Gly Pro Leu Gly Ser Trp Gln Gln Trp Arg

1 5 10 15

Arg Cys Leu Ser Ala Arg Asp Gly Ser Arg Met Leu Leu Leu Leu

20 25 30

Leu Leu Leu Gly Ser Gly Gln Gly Pro Gln Gln Val Gly Ala Gly

35 40 45

Gln Thr Phe Glu Tyr Leu Lys Arg Glu His Ser Leu Ser Lys Pro

50 55 60

Tyr Gln Gly Val Gly Thr Gly Ser Ser Ser Leu Trp Asn Leu Met

65 70 75

Gly Asn Ala Met Val Met Thr Gln Tyr Ile Arg Leu Thr Pro Asp

80 85 90

Met Gln Ser Lys Gln Gly Ala Leu Trp Asn Arg Val Pro Cys Phe

95 100 105

Leu Arg Asp Trp Glu Leu Gln Val His Phe Lys Ile His Gly Gln  
110 115 120

Gly Lys Lys Asn Leu His Gly Asp Gly Leu Ala Ile Trp Tyr Thr  
125 130 135

Lys Asp Arg Met Gln Pro Gly Pro Val Phe Gly Asn Met Asp Lys  
140 145 150

Phe Val Gly Leu Gly Val Phe Val Asp Thr Tyr Pro Asn Glu Glu  
155 160 165

Lys Gln Gln Glu Arg Val Phe Pro Tyr Ile Ser Ala Met Val Asn  
170 175 180

Asn Gly Ser Leu Ser Tyr Asp His Glu Arg Asp Gly Arg Pro Thr  
185 190 195

Glu Leu Gly Gly Cys Thr Ala Ile Val Arg Asn Leu His Tyr Asp  
200 205 210

Thr Phe Leu Val Ile Arg Tyr Val Lys Arg His Leu Thr Ile Met  
215 220 225

Met Asp Ile Asp Gly Lys His Glu Trp Arg Asp Cys Ile Glu Val  
230 235 240

Pro Gly Val Arg Leu Pro Arg Gly Tyr Tyr Phe Gly Thr Ser Ser  
245 250 255

Ile Thr Gly Asp Leu Ser Asp Asn His Asp Val Ile Ser Leu Lys  
260 265 270

Leu Phe Glu Leu Thr Val Glu Arg Thr Pro Glu Glu Glu Lys Leu  
275 280 285

His Arg Asp Val Phe Leu Pro Ser Val Asp Asn Met Lys Leu Pro  
290 295 300

Glu Met Thr Ala Pro Leu Pro Pro Leu Ser Gly Leu Ala Leu Phe  
305 310 315

Leu Ile Val Phe Phe Ser Leu Val Phe Ser Val Phe Ala Ile Val  
320 325 330

Ile Gly Ile Ile Leu Tyr Asn Lys Trp Gln Glu Gln Ser Arg Lys  
335 340 345

Arg Phe Tyr

<210> 381

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 381

ccttgggtcg tggcagcagt gg 22

<210> 382

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 382

cactctccag gctgcatgct cagg 24

<210> 383

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 383

gtcaaacgtt cgagtacttg aaacgggagc actcgtgtc gaagc 45

<210> 384

<211> 3150

<212> DNA

<213> Homo sapiens

<400> 384

ccgagccggg cgcgcagcga cggagctggg gccggcctgg gaccatgggc 50  
gtgagtcaa tctacggatc agtctctgat ggtgggtcgt taacctcagt 100  
ggggactcca agatttccat gaagaaaatc agttgtcttc attcaagaat 150  
tggggtctgg ctcaaatc ctgcagctgg tgaaaatctg ttttctagaa 200  
gaggtttaat taatgcctgc agtctgacat gttcccatt tgagtgaaa 250  
ccatgaagag aaaatagaat acttaataat gctttccgc aaccgttct 300  
tgctgctgct ggccctggct gcgctgctgg cctttgtgag cctcagcctg 350  
cagttcttc acctgatccc ggtgtcgact cctaagaatg gaatgagtag 400  
caagagtcga aagagaatca tgcccgacct tgtgacggag ccccctgtga 450  
cagaccccg tttatgaagct cttttgtact gcaacatccc cagtgtggcc 500  
gagcgcagca tggaaggtca tgcccgcac cttttaagc tggctcagt 550  
gcatgtgtc attcgccag gagacaggtc cccactgtat gtcattcca 600  
aaacaaagc accagaaat gactgcactc tgggtgctaa caggaaaccg 650  
tatcaccaa aactggaagc tttcattagt cacatgtcaa aaggatccgg 700  
agcctcttc gaaagccct tgaactcctt gcctctttac ccaatcacc 750  
cattgtgtga gatgggagag ctcacacaga caggagttgt gcagcattg 800  
cagaacggtc agctgctgag ggatatctat ctaaagaaac acaaactcct 850  
gcccaatgat tggctgcag accagctcta ttagagacc actgggaaaa 900  
gccggaccct acaaagtggg ctggccttgc tttatggctt tctccagat 950  
ttgactgga agaagattta tttcaggcac cagccaagtg cgctgttctg 1000  
ctctggaagc tgctattgcc cgtaagaaa ccagtatctg gaaaaggagc 1050  
agcgtcgtca gtacctccta cgtttgaaaa acagccagct ggagaagacc 1100  
tacggggaga tggccaagat cgtggatgtc cccaccaagc agcttagagc 1150

tgccaacccc atagactcca tgctctgcca cttctgccac aatgtcagct 1200  
ttccctgtac cagaaatggc tgtgttgaca tggagcactt caagtaatt 1250  
aagacctc agatcgagga tgaaggaa agacgggaga agaaattgta 1300  
cttcgggtat tctctctgg gtgcccacc catcctgaac caaacatcg 1350  
gccggatgca gcgtgccacc gagggcagga aagaagagct cttgccctc 1400  
tactctgtc atgatgtcac tctgtacca gttctcagt cttgggcct 1450  
ttcagaagcc aggttccaa gtttgcagc caggtgatc tttgagctt 1500  
ggcaagacag agaaaagccc agtgaacatt cegtccgat tcttacaat 1550  
ggcgtgatg tcacattcca cacctcttc tgccaagacc accacaagcg 1600  
tttcccaag cccatgtgcc cgctgaaa cttggtccgc tttgtgaaa 1650  
gggacatgt ttagccctg ggtggcagt gtacaaatta ttatgatgca 1700  
tgtcacagg aaggattcta aaaggtatgc agtacagcag tatagaatcc 1750  
atgccaatac agagcatagg gaaaggtcca cttctagtt tctctgttac 1800  
taaggtaga agattatgc ttttaaagg ctaaattg tttgtggaa 1850  
ccacagatgg ttgggttga acagtaagca cattgctgca atgtgttacg 1900  
tgaattgctt ggtacaaat ggccagtca cagaggaata gaaggtactt 1950  
tatcatagcc agacttgcct tagaatgcca gaataatata gttcaagacc 2000  
tgaagtgcc aatccaagt tgcactctc tggectgccc catgttacta 2050  
tgtgatgaa ccagcacacc tcaacaaaa ttttttaat cttagacatt 2100  
ttacctgt cttgttaag aatttctga agtgattat ctaaataaa 2150  
ggttgcaaa cttttctgt aaaggccag attgtaata ttcagactg 2200  
tgtggacaa aaggccacat acagtctctg tcataactac tcaactctgt 2250  
ttctgaagca ggaaagccac cacagacagt acataaagga atatgttag 2300

ctgggttccc aggccagaca aaacagatgg tgaccagact tggcccctgg 2350

gctgtagttt gctgaccct catctaaaa ataggctata ctacaattgc 2400

actccagca ctttgagaac gagttgaata ccaagaatta ttcaatggtt 2450

cctccagtaa cttctgctag aaacacagaa tttgtctgt atctgacct 2500

agaacaaaac ttgagggtaa ataacattg aattagaatg aatcatagaa 2550

aactgattag aagaatactt gatgtttatg atgattgtgg tacaagatag 2600

ttttaagtat gtctaaata tttgtctgt gtagtctatt tgctgtatat 2650

gctgaaattt ttgatgccca ttagtattt ttatagtta ggaaaatatt 2700

ttctaagacc agttttagat gactcttatt cctgtagtaa tattcaatt 2750

gctgtacctg cttgggtggtt agaaggaggc tagaagatga atcaggcac 2800

tttctccaa taaaactaat tatggctcat tcctttgac aagctgtaga 2850

actggattca ttttaaac attttcatca gtttcaaatg gtaaattctg 2900

attgattttt aaatgcgitt ttggaagaac tttgctatta gtagtttac 2950

agatctttat aaggtgtttt atatattaga agcaattata attacatctg 3000

tgatttctga actaatgggtg ctaattcaga gaaatggaaa gtgaaagtga 3050

gattctctgt tgcatcggc attccaactt tttctcttg ttttgtcca 3100

gtgttgcat tgaatatgtc tgtttctata aataaattt ttaagaataa 3150

<210> 385

<211> 480

<212> PRT

<213> Homo sapiens

<400> 385

Met Leu Phe Arg Asn Arg Phe Leu Leu Leu Leu Ala Leu Ala Ala

1 5 10 15

Leu Leu Ala Phe Val Ser Leu Ser Leu Gln Phe Phe His Leu Ile

20 25 30



Pro Val Ser Thr Pro Lys Asn Gly Met Ser Ser Lys Ser Arg Lys  
35 40 45

Arg Ile Met Pro Asp Pro Val Thr Glu Pro Pro Val Thr Asp Pro  
50 55 60

Val Tyr Glu Ala Leu Leu Tyr Cys Asn Ile Pro Ser Val Ala Glu  
65 70 75

Arg Ser Met Glu Gly His Ala Pro His His Phe Lys Leu Val Ser  
80 85 90

Val His Val Phe Ile Arg His Gly Asp Arg Tyr Pro Leu Tyr Val  
95 100 105

Ile Pro Lys Thr Lys Arg Pro Glu Ile Asp Cys Thr Leu Val Ala  
110 115 120

Asn Arg Lys Pro Tyr His Pro Lys Leu Glu Ala Phe Ile Ser His  
125 130 135

Met Ser Lys Gly Ser Gly Ala Ser Phe Glu Ser Pro Leu Asn Ser  
140 145 150

Leu Pro Leu Tyr Pro Asn His Pro Leu Cys Glu Met Gly Glu Leu  
155 160 165

Thr Gln Thr Gly Val Val Gln His Leu Gln Asn Gly Gln Leu Leu  
170 175 180

Arg Asp Ile Tyr Leu Lys Lys His Lys Leu Leu Pro Asn Asp Trp  
185 190 195

Ser Ala Asp Gln Leu Tyr Leu Glu Thr Thr Gly Lys Ser Arg Thr  
200 205 210

Leu Gln Ser Gly Leu Ala Leu Leu Tyr Gly Phe Leu Pro Asp Phe  
215 220 225

Asp Trp Lys Lys Ile Tyr Phe Arg His Gln Pro Ser Ala Leu Phe  
230 235 240

Cys Ser Gly Ser Cys Tyr Cys Pro Val Arg Asn Gln Tyr Leu Glu  
245 250 255

Lys Glu Gln Arg Arg Gln Tyr Leu Leu Arg Leu Lys Asn Ser Gln  
260 265 270

Leu Glu Lys Thr Tyr Gly Glu Met Ala Lys Ile Val Asp Val Pro  
275 280 285

Thr Lys Gln Leu Arg Ala Ala Asn Pro Ile Asp Ser Met Leu Cys  
290 295 300

His Phe Cys His Asn Val Ser Phe Pro Cys Thr Arg Asn Gly Cys  
305 310 315

Val Asp Met Glu His Phe Lys Val Ile Lys Thr His Gln Ile Glu  
320 325 330

Asp Glu Arg Glu Arg Arg Glu Lys Lys Leu Tyr Phe Gly Tyr Ser  
335 340 345

Leu Leu Gly Ala His Pro Ile Leu Asn Gln Thr Ile Gly Arg Met  
350 355 360

Gln Arg Ala Thr Glu Gly Arg Lys Glu Glu Leu Phe Ala Leu Tyr  
365 370 375

Ser Ala His Asp Val Thr Leu Ser Pro Val Leu Ser Ala Leu Gly  
380 385 390

Leu Ser Glu Ala Arg Phe Pro Arg Phe Ala Ala Arg Leu Ile Phe  
395 400 405

Glu Leu Trp Gln Asp Arg Glu Lys Pro Ser Glu His Ser Val Arg  
410 415 420

Ile Leu Tyr Asn Gly Val Asp Val Thr Phe His Thr Ser Phe Cys  
425 430 435

Gln Asp His His Lys Arg Ser Pro Lys Pro Met Cys Pro Leu Glu  
440 445 450

Asn Leu Val Arg Phe Val Lys Arg Asp Met Phe Val Ala Leu Gly  
455 460 465

Gly Ser Gly Thr Asn Tyr Tyr Asp Ala Cys His Arg Glu Gly Phe  
470 475 480

<210> 386  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 386  
ccaagcagct tagagctcca gacc 24

<210> 387  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 387  
ttccctatgc tctgtattgg catgg 25

<210> 388  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 388  
gccacttctg ccacaatgac agctttccct gtaccagaaa tggctgtgtt 50

<210> 389  
<211> 3313  
<212> DNA  
<213> Homo sapiens

<400> 389  
aaaaaagctc actaaagttt ctattagagc gaatacggta gatttccatc 50  
cccttttgaa gaacagtact gtggagctat ttaagagata aaaacgaaat 100  
atcctttctg ggagtcaag attgtgcagt aattggttag gactctgagc 150

gccgctgttc accaatcggg gagagaaaag cggagatcct gtcgccttg 200  
cacgcgctg aagcaciaag cagatagcta ggaatgaacc atccctggga 250  
gtatgtggaa acaacggagg agctctgact tccaactgt cccattctat 300  
gggcgaagga actgctcctg acttcagtgg ttaagggcag aattgaaaat 350  
aattctggag gaagataaga atgattcctg cgcgactgca ccgggactac 400  
aaagggcttg tcctgctggg aatcctcctg gggactctgt gggagaccgg 450  
atgacccag atacgtatt cagttccgga agagctggag aaaggctcta 500  
gggtgggca catctccagg gacctggggc tggagccccg ggagctcgcg 550  
gagcgcggag tccgcatcat cccagaggt aggacgcagc tttcgcct 600  
gaatccgcg agcggcagct tggtcacggc gggcaggata gaccgggagg 650  
agctctgtat gggggccatc aagtgtcaat taaatctaga cattctgatg 700  
gaggataaag tgaatatata tggagtagaa gtagaagtaa gggacattaa 750  
cgacaatgcg cttactttc gtgaaagtga attagaaata aaaattagtg 800  
aaaatgcagc cactgagatg cggttccctc taccacgc ctgggatccg 850  
gatatcggga agaactctct gcagagctac gagctcagcc cgaacactca 900  
cttctccctc atcgtcaaaa atggagccga cggtagtaag taccgccaat 950  
tgggtctgaa acgcgccctg gaccgcaag aaaaggctgc tcaccacctg 1000  
gtccttacgg cctccgacgg gggcgacccg gtgcgcacag gcaccgcgcg 1050  
catccgctg atggttctgg atgcgaacga caacgcacca gcgtttgctc 1100  
agcccagta ccgcgcgagc gttccggaga atctggcctt gggcacgcag 1150  
ctgctttag tcaacgtac cgaccctgac gaaggagtca atgcggaagt 1200  
gaggtattcc ttccggtatg tggacgacaa ggcggcccaa gtttcaaac 1250  
tagattgtaa ttcagggaca atatcaacaa taggggagtt ggaccacgag 1300

gagtcaggat tctaccagat ggaagtgcaa gcaatggata atgcaggata 1350  
ttctgcgcga gccaaagtcc tgatcactgt tctggacgtg aacgacaatg 1400  
ccccagaagt ggtcctcacc tctctcgcca gctcgggtcc cgaaaactct 1450  
cccagaggga cattaattgc ccttttaaat gtaaatgacc aagattctga 1500  
ggaaaacgga caggtgatct gtttcatcca aggaaatctg ccctttaaat 1550  
tagaaaaatc ttacggaaat tactatagtt tagtcacaga catagtcttg 1600  
gataggggaac aggttcctag ctacaacatc acagtgaccg ccaactgaccg 1650  
gggaaccccc ccctatcca cggaaactca tatctcgtg aacgtggcag 1700  
acaccaacga caaccgccc gtcttcctc aggctccta ttccgcttat 1750  
atcccagaga acaatcccag aggagttcc ctcgtctctg tgaccgcca 1800  
cgaccccgac tgtgaagaga acgcccagat cacttattcc ctggctgaga 1850  
acaccatcca aggggcaagc ctatcgtcct acgtgtccat caactccgac 1900  
actggggtac tgtatgcgt gagtccttc gactacgagc agttccgaga 1950  
cttgcaagtg aaagtgatgg cgcgggacaa cgggcacccg cccctcagca 2000  
gcaacgtgtc gttgagcctg ttcgtgctgg accagaacga caatgcgccc 2050  
gagatcctgt accccgcct ccccacggac ggttccactg gcgtggagct 2100  
ggctccccgc tccgagagc ccggctacct ggtgaccaag gtggtggcgg 2150  
tggacagaga ctccggccag aacgcctggc tgcctaccg tctgctcaag 2200  
gccagcgagc cgggactctt ctcggtgggt ctgcacacgg gcgaggtgcg 2250  
cacggcgcga gccctgctgg acagagacgc gctcaagcag agcctcgtag 2300  
tggccgtcca ggaccacggc cagccccctc tctccgccac tgtcacgctc 2350  
accgtggccg tggccgacag catccccaa gtctggcgg acctcggcag 2400  
cctcgagtct ccagtaact ctgaaacctc agacctact ctgtacctgg 2450

tggtagcggg ggccgcggtc tctgcgtct tctggcctt cgcatcttg 2500  
ctgctggcgc tcaggctgcg gcgctggcac aagtcacgcc tgctgcaggc 2550  
ttcaggaggc ggcttgacag gagcgccggc gtcgcacttt gtgggcgtgg 2600  
acgggggtgca ggctttcctg cagacctatt cccacgaggt ttcctcacc 2650  
acggactcgc ggaagagtca cctgatcttc cccagccca actatgcaga 2700  
catgctcgtc agccaggaga gctttgaaaa aagcgagccc ctttgctgt 2750  
caggtgattc ggtatttct aaagacagtc atgggtaat tgagtgagt 2800  
ttatacaaa tcttcttct tttttttt aattgctctg tctccaagc 2850  
tggagtgcag cggtacgac atagctcaact gcggcctcaa actcctaggc 2900  
tcaagcaatt atcccacctt tgctccggg gtaacaggga ctacaggtgc 2950  
aagccaccta ctgtctgct atctatctat ctatctatct atctatctat 3000  
ctatctatct atctatctat tactttcttg tacagacggg agtctcacgc 3050  
ctgtaatccc agtactttgg gaggccgagg cgggtggatc acctgaggtt 3100  
gggagttga gaccagcctg accaacaatgg agaaaccccg tctatactaa 3150  
aaaaatacaa aattagccgg gcgtggtggt gcatgtctgt aatcccagct 3200  
acttgggagg ctgagtcagg agaattgctt taacctggga ggtggaggtt 3250  
gcaatgagct gagattgtgc cattgcactc cagcctgggc aacaagagtg 3300  
aaactctatc tca 3313

<210> 390  
<211> 916  
<212> PRT  
<213> Homo sapiens

<400> 390  
Met Ile Pro Ala Arg Leu His Arg Asp Tyr Lys Gly Leu Val Leu  
1 5 10 15

Leu Gly Ile Leu Leu Gly Thr Leu Trp Glu Thr Gly Cys Thr Gln  
20 25 30

Ile Arg Tyr Ser Val Pro Glu Glu Leu Glu Lys Gly Ser Arg Val  
35 40 45

Gly Asp Ile Ser Arg Asp Leu Gly Leu Glu Pro Arg Glu Leu Ala  
50 55 60

Glu Arg Gly Val Arg Ile Ile Pro Arg Gly Arg Thr Gln Leu Phe  
65 70 75

Ala Leu Asn Pro Arg Ser Gly Ser Leu Val Thr Ala Gly Arg Ile  
80 85 90

Asp Arg Glu Glu Leu Cys Met Gly Ala Ile Lys Cys Gln Leu Asn  
95 100 105

Leu Asp Ile Leu Met Glu Asp Lys Val Lys Ile Tyr Gly Val Glu  
110 115 120

Val Glu Val Arg Asp Ile Asn Asp Asn Ala Pro Tyr Phe Arg Glu  
125 130 135

Ser Glu Leu Glu Ile Lys Ile Ser Glu Asn Ala Ala Thr Glu Met  
140 145 150

Arg Phe Pro Leu Pro His Ala Trp Asp Pro Asp Ile Gly Lys Asn  
155 160 165

Ser Leu Gln Ser Tyr Glu Leu Ser Pro Asn Thr His Phe Ser Leu  
170 175 180

Ile Val Gln Asn Gly Ala Asp Gly Ser Lys Tyr Pro Glu Leu Val  
185 190 195

Leu Lys Arg Ala Leu Asp Arg Glu Glu Lys Ala Ala His His Leu  
200 205 210

Val Leu Thr Ala Ser Asp Gly Gly Asp Pro Val Arg Thr Gly Thr  
215 220 225

Ala Arg Ile Arg Val Met Val Leu Asp Ala Asn Asp Asn Ala Pro  
230 235 240

Ala Phe Ala Gln Pro Glu Tyr Arg Ala Ser Val Pro Glu Asn Leu  
245 250 255

Ala Leu Gly Thr Gln Leu Leu Val Val Asn Ala Thr Asp Pro Asp  
260 265 270

Glu Gly Val Asn Ala Glu Val Arg Tyr Ser Phe Arg Tyr Val Asp  
275 280 285

Asp Lys Ala Ala Gln Val Phe Lys Leu Asp Cys Asn Ser Gly Thr  
290 295 300

Ile Ser Thr Ile Gly Glu Leu Asp His Glu Glu Ser Gly Phe Tyr  
305 310 315

Gln Met Glu Val Gln Ala Met Asp Asn Ala Gly Tyr Ser Ala Arg  
320 325 330

Ala Lys Val Leu Ile Thr Val Leu Asp Val Asn Asp Asn Ala Pro  
335 340 345

Glu Val Val Leu Thr Ser Leu Ala Ser Ser Val Pro Glu Asn Ser  
350 355 360

Pro Arg Gly Thr Leu Ile Ala Leu Leu Asn Val Asn Asp Gln Asp  
365 370 375

Ser Glu Glu Asn Gly Gln Val Ile Cys Phe Ile Gln Gly Asn Leu  
380 385 390

Pro Phe Lys Leu Glu Lys Ser Tyr Gly Asn Tyr Tyr Ser Leu Val  
395 400 405

Thr Asp Ile Val Leu Asp Arg Glu Gln Val Pro Ser Tyr Asn Ile  
410 415 420

Thr Val Thr Ala Thr Asp Arg Gly Thr Pro Pro Leu Ser Thr Glu  
425 430 435

Thr His Ile Ser Leu Asn Val Ala Asp Thr Asn Asp Asn Pro Pro  
440 445 450

Val Phe Pro Gln Ala Ser Tyr Ser Ala Tyr Ile Pro Glu Asn Asn  
455 460 465



Pro Arg Gly Val Ser Leu Val Ser Val Thr Ala His Asp Pro Asp  
470 475 480

Cys Glu Glu Asn Ala Gln Ile Thr Tyr Ser Leu Ala Glu Asn Thr  
485 490 495

Ile Gln Gly Ala Ser Leu Ser Ser Tyr Val Ser Ile Asn Ser Asp  
500 505 510

Thr Gly Val Leu Tyr Ala Leu Ser Ser Phe Asp Tyr Glu Gln Phe  
515 520 525

Arg Asp Leu Gln Val Lys Val Met Ala Arg Asp Asn Gly His Pro  
530 535 540

Pro Leu Ser Ser Asn Val Ser Leu Ser Leu Phe Val Leu Asp Gln  
545 550 555

Asn Asp Asn Ala Pro Glu Ile Leu Tyr Pro Ala Leu Pro Thr Asp  
560 565 570

Gly Ser Thr Gly Val Glu Leu Ala Pro Arg Ser Ala Glu Pro Gly  
575 580 585

Tyr Leu Val Thr Lys Val Val Ala Val Asp Arg Asp Ser Gly Gln  
590 595 600

Asn Ala Trp Leu Ser Tyr Arg Leu Leu Lys Ala Ser Glu Pro Gly  
605 610 615

Leu Phe Ser Val Gly Leu His Thr Gly Glu Val Arg Thr Ala Arg  
620 625 630

Ala Leu Leu Asp Arg Asp Ala Leu Lys Gln Ser Leu Val Val Ala  
635 640 645

Val Gln Asp His Gly Gln Pro Pro Leu Ser Ala Thr Val Thr Leu  
650 655 660

Thr Val Ala Val Ala Asp Ser Ile Pro Gln Val Leu Ala Asp Leu  
665 670 675

Gly Ser Leu Glu Ser Pro Ala Asn Ser Glu Thr Ser Asp Leu Thr  
680 685 690

Leu Tyr Leu Val Val Ala Val Ala Ala Val Ser Cys Val Phe Leu  
695 700 705

Ala Phe Val Ile Leu Leu Leu Ala Leu Arg Leu Arg Arg Trp His  
710 715 720

Lys Ser Arg Leu Leu Gln Ala Ser Gly Gly Gly Leu Thr Gly Ala  
725 730 735

Pro Ala Ser His Phe Val Gly Val Asp Gly Val Gln Ala Phe Leu  
740 745 750

Gln Thr Tyr Ser His Glu Val Ser Leu Thr Thr Asp Ser Arg Lys  
755 760 765

Ser His Leu Ile Phe Pro Gln Pro Asn Tyr Ala Asp Met Leu Val  
770 775 780

Ser Gln Glu Ser Phe Glu Lys Ser Glu Pro Leu Leu Leu Ser Gly  
785 790 795

Asp Ser Val Phe Ser Lys Asp Ser His Gly Leu Ile Glu Val Ser  
800 805 810

Leu Tyr Gln Ile Phe Phe Leu Phe Phe Phe Asn Cys Ser Val Ser  
815 820 825

Gln Ala Gly Val Gln Arg Tyr Asp His Ser Ser Leu Arg Pro Gln  
830 835 840

Thr Pro Arg Leu Lys Gln Leu Ser His Leu Cys Leu Arg Cys Asn  
845 850 855

Arg Asp Tyr Arg Cys Lys Pro Pro Thr Val Cys Leu Ser Ile Tyr  
860 865 870

Leu Ser Ile Tyr Leu Ser Ile Tyr Leu Ser Ile Tyr Leu Leu Leu  
875 880 885

Ser Cys Thr Asp Gly Ser Leu Thr Pro Val Ile Pro Val Leu Trp  
890 895 900

Glu Ala Glu Ala Gly Gly Ser Pro Glu Val Gly Ser Leu Arg Pro  
905 910 915

Ala

<210> 391

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 391

tccgtctctg tgaaccgccc cac 23

<210> 392

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 392

ctcgggcgca ttgctgttct ggtc 24

<210> 393

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 393

ccgactgtga aagagaacgc cccagatcca cttgttcccc 40

<210> 394

<211> 999

<212> DNA

<213> Homo sapiens

<400> 394

cccaggctct agtcaggag gagaaggagg aggagcagga ggtggagatt 50

cccagtaaa aggctccaga atcgtgtacc aggcagagaa ctgaagtact 100

ggggcctcct ccactgggtc cgaatcagta ggtgaccccg cccctggatt 150  
ctggaagacc tcacatggg acgccccga cctcgtgagg ccaagacgtg 200  
gatgttctg ctcttgctgg ggggagcctg ggcaggacac tccagggcac 250  
aggaggacaa ggtgctgggg ggtcatgagt gccaaccca ttcgagcct 300  
tggcagggcg ccttgtcca gggccagcaa ctactctgtg gcggtgtct 350  
tgtaggtggc aactgggtcc ttacagctgc ccactgtaa aaaccgaaat 400  
acacagtacg cctgggagac cacagcctac agaataaaga tggcccagag 450  
caagaaatac ctgtgttca gtccatcca caccctgtct acaacagcag 500  
cgatgtggag gaccacaacc atgatctgat gcttctcaa ctgcgtgacc 550  
aggcatcct ggggtccaaa gtgaagccca tcagcctggc agatcattgc 600  
accagcctg gccagaagtg caccgtctca ggctggggca ctgtcaccag 650  
tccccagag aatttctg acacttcaa ctgtgcagaa gtaaaaatct 700  
ttccccagaa gaagtgtgag gatgcttacc cggggcagat cacagatggc 750  
atggtctgtg caggcagcag caaaggggct gacacgtgcc agggcgattc 800  
tggaggcccc ctggtgtgtg atggtgact ccagggcac acatcctggg 850  
gctcagacc ctgtgggagg tccgacaaac ctggcgtcta taccaacatc 900  
tgccgctacc tggactggat caagaagatc ataggcagca agggctgatt 950  
ctaggataag cactagatct cccttaataa actcacaact ctctggtc 999

<210> 395

<211> 260

<212> PRT

<213> Homo sapiens

<400> 395

Met Gly Arg Pro Arg Pro Arg Ala Ala Lys Thr Trp Met Phe Leu

1

5

10

15

Leu Leu Leu Gly Gly Ala Trp Ala Gly His Ser Arg Ala Gln Glu  
20 25 30

Asp Lys Val Leu Gly Gly His Glu Cys Gln Pro His Ser Gln Pro  
35 40 45

Trp Gln Ala Ala Leu Phe Gln Gly Gln Gln Leu Leu Cys Gly Gly  
50 55 60

Val Leu Val Gly Gly Asn Trp Val Leu Thr Ala Ala His Cys Lys  
65 70 75

Lys Pro Lys Tyr Thr Val Arg Leu Gly Asp His Ser Leu Gln Asn  
80 85 90

Lys Asp Gly Pro Glu Gln Glu Ile Pro Val Val Gln Ser Ile Pro  
95 100 105

His Pro Cys Tyr Asn Ser Ser Asp Val Glu Asp His Asn His Asp  
110 115 120

Leu Met Leu Leu Gln Leu Arg Asp Gln Ala Ser Leu Gly Ser Lys  
125 130 135

Val Lys Pro Ile Ser Leu Ala Asp His Cys Thr Gln Pro Gly Gln  
140 145 150

Lys Cys Thr Val Ser Gly Trp Gly Thr Val Thr Ser Pro Arg Glu  
155 160 165

Asn Phe Pro Asp Thr Leu Asn Cys Ala Glu Val Lys Ile Phe Pro  
170 175 180

Gln Lys Lys Cys Glu Asp Ala Tyr Pro Gly Gln Ile Thr Asp Gly  
185 190 195

Met Val Cys Ala Gly Ser Ser Lys Gly Ala Asp Thr Cys Gln Gly  
200 205 210

Asp Ser Gly Gly Pro Leu Val Cys Asp Gly Ala Leu Gln Gly Ile  
215 220 225

Thr Ser Trp Gly Ser Asp Pro Cys Gly Arg Ser Asp Lys Pro Gly  
230 235 240

Val Tyr Thr Asn Ile Cys Arg Tyr Leu Asp Trp Ile Lys Lys Ile  
245 250 255

Ile Gly Ser Lys Gly  
260

<210> 396

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 396

cagcctacag aataaagatg gcc 24

<210> 397

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 397

ggtgcaatga tctgccaggc tgat 24

<210> 398

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 398

agaataacct gtggttcagt ccatcccaaa ccctgctac aacagcag 48

<210> 399

<211> 2236

<212> DNA

<213> Homo sapiens

<400> 399

ggcgccggtg caccgggagg gctgagcgcc tcctgaggcc cggcctgcgc 50  
gccccggccc gccgagcgc ccacgcccc accccggccc gcgcccccta 100  
gccccgccc gggcccgcc ccgagcgc gccaggtga gcgctccgc 150  
cgccgaggg cccgccccg gccgcccc gccgcccc ggccggcggg 200  
ggaaccggg ggattcctg cgcgtcaaac cacctgatcc cataaacat 250  
tcctctccc ggcggccgc gctgagcgc cccgccaagt ccgagcgc 300  
gccgacctg cctgtgagc cctgagcgc ctgagcacc gcggccgag 350  
cccagccaga gccgggagg gccgagcgc ccgagcctg tccgagcgc 400  
gggcccgggc cggccgtag cggcggcgc tggatgcga cccgcccgc 450  
gggagacggg cggccccc gaaacgactt tcagtcccc acgccccg 500  
cccaaccct acgatgaaga gggcgtccg tggaggagc cggctgctg 550  
catgggtgct gtggctgag gcctggcagg tggagcccc atgccaggt 600  
gcctgcgtat gctacaatga gcccaaggc agacaagct gccccagca 650  
gggctgag gctgtcccg tggcatccc tgctccagc cagcgcatt 700  
tcctgacgg caaccgac tcgcatgtc cagctccag ctccgtgc 750  
tgccgaacc tcaccatct gtgctgac tcgaatgtc tgcccgaat 800  
tgatgggct gccttactg gcctggcct cctggagcag ctggacctca 850  
gcgataatgc acagctccg tctgtgacc ctgccacatt ccaggcctg 900  
ggccgctac acagctgca cctgagcgc tgcggcctg aggagctgg 950  
cccgggctg ttccgagc tgctgcct gcagtacct tacctgag 1000  
acaacgcgt gcaggactg cctgatgaca cctccgga cctgggcaac 1050  
ctcacacc tcttctgca cggcaaccg atccagc tgcccagc 1100  
cgcttccgt gggtgcaca gcctgaccg tcttactg caccagaacc 1150

gcgtggccca tgtgacccg catgcctcc gtgacctgg cgcctcatg 1200  
acactctatc tgttgccaa caatctatca gcgctgcca ctgaggcct 1250  
ggccccctg cgtgcctgc agtacctgag gctcaacgac aaccctggg 1300  
tgtgtgactg ccgggcacgc cactctggg cctggctgca gaagtccgc 1350  
ggctcctct cagagtgcc ctgcagcctc ccgcaacgcc tggctggccg 1400  
tgacctcaaa cgcctagctg ccaatgacct gcagggtgc gctgtggcca 1450  
ccggccctta ccatccatc tggaccgca gggccaccga tgaggagccg 1500  
ctggggcttc ccaagtctg ccagccagat gccgctgaca aggcctcagt 1550  
actggagcct ggaagaccag ctcggcagg caatgcgctg aagggacgcg 1600  
tgccgcccgg tgacagcccg ccgggcaacg gctctggccc acggcacatc 1650  
aatgactcac ccttgggac tctgctggc tctgtgagc cccgctcac 1700  
tgcagtgcgg cccgagggt cagaccacc aggggtccc acctcgggcc 1750  
ctcggcggag gccaggtgt tcacgcaaga accgcaccg cagccactgc 1800  
cgtctgggcc aggcaggcag cgggggtggc gggactggtg actcagaagg 1850  
ctcaggtgcc ctaccagcc tcacctgag cctaccccc ctgggcctgg 1900  
cgctggtgct gtggacagtg cttgggcct gctgacccc agcggacaca 1950  
agagcgtgct cagcagccag gtgtgtgtac atacggggtc tctctccacg 2000  
ccccaagcc agccgggcgg ccgaccctg gggcaggcca ggccaggtcc 2050  
tcctgatgg acgcctgcc cccgccacc ccatctccac ccatcatgt 2100  
ttacaggggt cggcggcagc gttgttcca gaacgccgc tcccaccag 2150  
atcgcggtat atagagatat gcattttatt ttactgtgt aaaaatatcg 2200  
gacgactgg aataaagagc tctttctta aaaaaa 2236



<211> 473  
<212> PRT  
<213> Homo sapiens

<400> 400

Met Lys Arg Ala Ser Ala Gly Gly Ser Arg Leu Leu Ala Trp Val  
1 5 10 15

Leu Trp Leu Gln Ala Trp Gln Val Ala Ala Pro Cys Pro Gly Ala  
20 25 30

Cys Val Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser Cys Pro Gln  
35 40 45

Gln Gly Leu Gln Ala Val Pro Val Gly Ile Pro Ala Ala Ser Gln  
50 55 60

Arg Ile Phe Leu His Gly Asn Arg Ile Ser His Val Pro Ala Ala  
65 70 75

Ser Phe Arg Ala Cys Arg Asn Leu Thr Ile Leu Trp Leu His Ser  
80 85 90

Asn Val Leu Ala Arg Ile Asp Ala Ala Ala Phe Thr Gly Leu Ala  
95 100 105

Leu Leu Glu Gln Leu Asp Leu Ser Asp Asn Ala Gln Leu Arg Ser  
110 115 120

Val Asp Pro Ala Thr Phe His Gly Leu Gly Arg Leu His Thr Leu  
125 130 135

His Leu Asp Arg Cys Gly Leu Gln Glu Leu Gly Pro Gly Leu Phe  
140 145 150

Arg Gly Leu Ala Ala Leu Gln Tyr Leu Tyr Leu Gln Asp Asn Ala  
155 160 165

Leu Gln Ala Leu Pro Asp Asp Thr Phe Arg Asp Leu Gly Asn Leu  
170 175 180

Thr His Leu Phe Leu His Gly Asn Arg Ile Ser Ser Val Pro Glu  
185 190 195

Arg Ala Phe Arg Gly Leu His Ser Leu Asp Arg Leu Leu Leu His

200                    205                    210

Gln Asn Arg Val Ala His Val His Pro His Ala Phe Arg Asp Leu  
215                    220                    225

Gly Arg Leu Met Thr Leu Tyr Leu Phe Ala Asn Asn Leu Ser Ala  
230                    235                    240

Leu Pro Thr Glu Ala Leu Ala Pro Leu Arg Ala Leu Gln Tyr Leu  
245                    250                    255

Arg Leu Asn Asp Asn Pro Trp Val Cys Asp Cys Arg Ala Arg Pro  
260                    265                    270

Leu Trp Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser Ser Glu Val  
275                    280                    285

Pro Cys Ser Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu Lys Arg  
290                    295                    300

Leu Ala Ala Asn Asp Leu Gln Gly Cys Ala Val Ala Thr Gly Pro  
305                    310                    315

Tyr His Pro Ile Trp Thr Gly Arg Ala Thr Asp Glu Glu Pro Leu  
320                    325                    330

Gly Leu Pro Lys Cys Cys Gln Pro Asp Ala Ala Asp Lys Ala Ser  
335                    340                    345

Val Leu Glu Pro Gly Arg Pro Ala Ser Ala Gly Asn Ala Leu Lys  
350                    355                    360

Gly Arg Val Pro Pro Gly Asp Ser Pro Pro Gly Asn Gly Ser Gly  
365                    370                    375

Pro Arg His Ile Asn Asp Ser Pro Phe Gly Thr Leu Pro Gly Ser  
380                    385                    390

Ala Glu Pro Pro Leu Thr Ala Val Arg Pro Glu Gly Ser Glu Pro  
395                    400                    405

Pro Gly Phe Pro Thr Ser Gly Pro Arg Arg Arg Pro Gly Cys Ser  
410                    415                    420

Arg Lys Asn Arg Thr Arg Ser His Cys Arg Leu Gly Gln Ala Gly

425                    430                    435

Ser Gly Gly Gly Gly Thr Gly Asp Ser Glu Gly Ser Gly Ala Leu  
440                    445                    450

Pro Ser Leu Thr Cys Ser Leu Thr Pro Leu Gly Leu Ala Leu Val  
455                    460                    465

Leu Trp Thr Val Leu Gly Pro Cys  
470

<210> 401

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 401

tggtgccct gcagtacctc tacc 24

<210> 402

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 402

ccctgcaggt cattggcagc tagg 24

<210> 403

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 403

aggcactgcc tgatgacacc ttccgcgacc tgggcaacct cacac 45

<210> 404

<211> 2738

<212> DNA

<213> Homo sapiens

<400> 404

ggaagtccac ggggagcttg gatgccaaag ggaggacggc tgggtcctct 50  
ggagaggact actcactggc atatttctga ggtatctgta gaataaccac 100  
agcctcagat actggggact ttacagtccc acagaaccgt cctcccagga 150  
agctgaatcc agcaagaaca atggaggcca gcgggaagct cattgcaga 200  
caaaggcaag tcctttttc ctttctcctt ttgggcttat ctctggcggg 250  
cgcgccggaa cctagaagct attctgtggt ggaggaaact gagggcagct 300  
cctttgtcac caatttagca aaggacctgg gtctggagca gagggaattc 350  
tccaggcggg gggttagggt tgttccaga gggaacaaac tacatttgc 400  
gctcaatcag gagaccgagg atttgtgct aatgagaaa ttggaccgtg 450  
aggatctgtg cggtcacaca gagccctgtg tgctacgttt ccaagtgtg 500  
ctagagagtc ccttcgagtt tttcaagct gagctgcaag taatagacat 550  
aaacgaccac tcctcagtat tctggacaa acaaatgttg gtgaaagtat 600  
cagagagcag tcctcctggg actacgttfc ctctgaagaa tgccgaagac 650  
ttagatgtag gccaaaacaa tattgagaac tatataatca gccccaactc 700  
ctatttcgg gtccctaccc gcaaacgcag tgatggcagg aaatacccag 750  
agctggtgct ggacaaagcg ctggaccgag aggaagaagc tgagctcagg 800  
ttaactca cagcactgga tggaggctct cgcccagat ctggcactgc 850  
tcaggcttac atcgaagtcc tggatgtcaa cgataatgcc cctgaattg 900  
agcagccttt ctatagagtg cagatctctg aggacagtcc ggtaggcttc 950  
ctggttgtga aggtctctgc cacggatgta gacacaggag tcaacggaga 1000

gatttcctat tcaactttcc aagcttcaga agagattggc aaaaccttta 1050  
agatcaatcc cttgacagga gaaattgaac taaaaaaca actcgatttc 1100  
gaaaaacttc agtccatga agtcaatatt gaggcaagag atgctggaac 1150  
ctttctgga aatgcaccg ttctgattca agtgatagat gtgaacgacc 1200  
atgccccaga agttaccatg tctgcattta ccagcccaat acctgagaac 1250  
gcgctgaaa ctgtggtgc acttttcagt gtttcagatc ttgattcagg 1300  
agaaaatggg aaaattagtt gctccattca ggagatcta cccttctcc 1350  
tgaaatccgc gaaaaacttt tacaccctac taacggagag accactagac 1400  
agagaaagca gagcgaata caacatcact atcactgtca ctgactggg 1450  
gaccctatg ctgataacac agtcaatat gaccgtgctg atcgccgatg 1500  
tcaatgacaa cgctccgcc ttcacccaaa cctctacac cctgttctc 1550  
cgcgagaaca acagccccgc cctgcacatc cgcagcgtca gcgctacaga 1600  
cagagactca ggcaccaacg cccaggfcac ctactcgtg ctgccgcccc 1650  
aggaccgca cctgccctc acatccctgg tctccatcaa cgcggacaac 1700  
ggccacctgt tcgccctcag gtctctggac tacgagccc tgcaggggtt 1750  
ccagttccgc gtgggcgctt cagaccacgg ctccccggcg ctgagcagcg 1800  
aggcgctggt gcgctggtg gtgctggacg ccaacgacaa ctgcccttc 1850  
gtgctgtacc cgctgcagaa cggctccgcg ccctgcaccg agctggtgcc 1900  
ccgggcggcc gagccgggct acctggtgac caagtggtg gcggtggacg 1950  
gcgactcggg ccagaacgcc tggctgtcgt accagctgct caaggccacg 2000  
gagctcggtc tgttcggcgt gtggcgcac aatggcgagg tgcgcaccgc 2050  
caggctgctg agcgagcgcg acgcgccaa gcacaggctg gtggtgctgg 2100  
tcaaggacaa tggcgagcct ccgcgctcg ccaccgccac gctgcacgtg 2150

ctcctggtgg acggttctc ccagccctac ctgcctctcc cggaggcggc 2200  
cccgaccag gccagggcg acttgctcac cgtctacctg gtggtggcgt 2250  
tggcctcggg gttctgctc ttctctttt cgggtctcct gttcgtggcg 2300  
gtgcggctgt gtaggaggag cagggcggcc tcggtgggtc gctgcttgg 2350  
gcccgagggc cccctccag ggcatcttgt ggacatgagc ggcaccagga 2400  
ccctatccca gagctaccag tatgaggtgt gtctggcagg aggctcagg 2450  
accaatgagt tcaagttct gaagccgatt atccccaact tcctcccca 2500  
gtgccctggg aaagaaatac aaggaaattc taccttccc aataacttg 2550  
ggtcaatat tcaagtacca tagttgactt ttacattcca taggtattt 2600  
atttgtggc attccatgc caatgtttat ttcccctaat ttgtgtgat 2650  
gtaatattgt acggattac tcttgattt tctcatgtt tttctcctt 2700  
tgtttaaag tgaacattta cctttattcc tggttctt 2738

<210> 405  
<211> 798  
<212> PRT  
<213> Homo sapiens

<400> 405  
Met Glu Ala Ser Gly Lys Leu Ile Cys Arg Gln Arg Gln Val Leu  
1 5 10 15  
Phe Ser Phe Leu Leu Leu Gly Leu Ser Leu Ala Gly Ala Ala Glu  
20 25 30  
Pro Arg Ser Tyr Ser Val Val Glu Glu Thr Glu Gly Ser Ser Phe  
35 40 45  
Val Thr Asn Leu Ala Lys Asp Leu Gly Leu Glu Gln Arg Glu Phe  
50 55 60  
Ser Arg Arg Gly Val Arg Val Val Ser Arg Gly Asn Lys Leu His  
65 70 75

Leu Gln Leu Asn Gln Glu Thr Ala Asp Leu Leu Leu Asn Glu Lys  
80 85 90

Leu Asp Arg Glu Asp Leu Cys Gly His Thr Glu Pro Cys Val Leu  
95 100 105

Arg Phe Gln Val Leu Leu Glu Ser Pro Phe Glu Phe Phe Gln Ala  
110 115 120

Glu Leu Gln Val Ile Asp Ile Asn Asp His Ser Pro Val Phe Leu  
125 130 135

Asp Lys Gln Met Leu Val Lys Val Ser Glu Ser Ser Pro Pro Gly  
140 145 150

Thr Thr Phe Pro Leu Lys Asn Ala Glu Asp Leu Asp Val Gly Gln  
155 160 165

Asn Asn Ile Glu Asn Tyr Ile Ile Ser Pro Asn Ser Tyr Phe Arg  
170 175 180

Val Leu Thr Arg Lys Arg Ser Asp Gly Arg Lys Tyr Pro Glu Leu  
185 190 195

Val Leu Asp Lys Ala Leu Asp Arg Glu Glu Glu Ala Glu Leu Arg  
200 205 210

Leu Thr Leu Thr Ala Leu Asp Gly Gly Ser Pro Pro Arg Ser Gly  
215 220 225

Thr Ala Gln Val Tyr Ile Glu Val Leu Asp Val Asn Asp Asn Ala  
230 235 240

Pro Glu Phe Glu Gln Pro Phe Tyr Arg Val Gln Ile Ser Glu Asp  
245 250 255

Ser Pro Val Gly Phe Leu Val Val Lys Val Ser Ala Thr Asp Val  
260 265 270

Asp Thr Gly Val Asn Gly Glu Ile Ser Tyr Ser Leu Phe Gln Ala  
275 280 285

Ser Glu Glu Ile Gly Lys Thr Phe Lys Ile Asn Pro Leu Thr Gly  
290 295 300

Glu Ile Glu Leu Lys Lys Gln Leu Asp Phe Glu Lys Leu Gln Ser  
305 310 315

Tyr Glu Val Asn Ile Glu Ala Arg Asp Ala Gly Thr Phe Ser Gly  
320 325 330

Lys Cys Thr Val Leu Ile Gln Val Ile Asp Val Asn Asp His Ala  
335 340 345

Pro Glu Val Thr Met Ser Ala Phe Thr Ser Pro Ile Pro Glu Asn  
350 355 360

Ala Pro Glu Thr Val Val Ala Leu Phe Ser Val Ser Asp Leu Asp  
365 370 375

Ser Gly Glu Asn Gly Lys Ile Ser Cys Ser Ile Gln Glu Asp Leu  
380 385 390

Pro Phe Leu Leu Lys Ser Ala Glu Asn Phe Tyr Thr Leu Leu Thr  
395 400 405

Glu Arg Pro Leu Asp Arg Glu Ser Arg Ala Glu Tyr Asn Ile Thr  
410 415 420

Ile Thr Val Thr Asp Leu Gly Thr Pro Met Leu Ile Thr Gln Leu  
425 430 435

Asn Met Thr Val Leu Ile Ala Asp Val Asn Asp Asn Ala Pro Ala  
440 445 450

Phe Thr Gln Thr Ser Tyr Thr Leu Phe Val Arg Glu Asn Asn Ser  
455 460 465

Pro Ala Leu His Ile Arg Ser Val Ser Ala Thr Asp Arg Asp Ser  
470 475 480

Gly Thr Asn Ala Gln Val Thr Tyr Ser Leu Leu Pro Pro Gln Asp  
485 490 495

Pro His Leu Pro Leu Thr Ser Leu Val Ser Ile Asn Ala Asp Asn  
500 505 510

Gly His Leu Phe Ala Leu Arg Ser Leu Asp Tyr Glu Ala Leu Gln  
515 520 525



Gly Phe Gln Phe Arg Val Gly Ala Ser Asp His Gly Ser Pro Ala  
530 535 540

Leu Ser Ser Glu Ala Leu Val Arg Val Val Val Leu Asp Ala Asn  
545 550 555

Asp Asn Ser Pro Phe Val Leu Tyr Pro Leu Gln Asn Gly Ser Ala  
560 565 570

Pro Cys Thr Glu Leu Val Pro Arg Ala Ala Glu Pro Gly Tyr Leu  
575 580 585

Val Thr Lys Val Val Ala Val Asp Gly Asp Ser Gly Gln Asn Ala  
590 595 600

Trp Leu Ser Tyr Gln Leu Leu Lys Ala Thr Glu Leu Gly Leu Phe  
605 610 615

Gly Val Trp Ala His Asn Gly Glu Val Arg Thr Ala Arg Leu Leu  
620 625 630

Ser Glu Arg Asp Ala Ala Lys His Arg Leu Val Val Leu Val Lys  
635 640 645

Asp Asn Gly Glu Pro Pro Arg Ser Ala Thr Ala Thr Leu His Val  
650 655 660

Leu Leu Val Asp Gly Phe Ser Gln Pro Tyr Leu Pro Leu Pro Glu  
665 670 675

Ala Ala Pro Thr Gln Ala Gln Ala Asp Leu Leu Thr Val Tyr Leu  
680 685 690

Val Val Ala Leu Ala Ser Val Ser Ser Leu Phe Leu Phe Ser Val  
695 700 705

Leu Leu Phe Val Ala Val Arg Leu Cys Arg Arg Ser Arg Ala Ala  
710 715 720

Ser Val Gly Arg Cys Leu Val Pro Glu Gly Pro Leu Pro Gly His  
725 730 735

Leu Val Asp Met Ser Gly Thr Arg Thr Leu Ser Gln Ser Tyr Gln  
740 745 750

Tyr Glu Val Cys Leu Ala Gly Gly Ser Gly Thr Asn Glu Phe Lys  
755 760 765

Phe Leu Lys Pro Ile Ile Pro Asn Phe Pro Pro Gln Cys Pro Gly  
770 775 780

Lys Glu Ile Gln Gly Asn Ser Thr Phe Pro Asn Asn Phe Gly Phe  
785 790 795

Asn Ile Gln

<210> 406

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 406

ctgagaacgc gcctgaaact gtg 23

<210> 407

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 407

agcgttgca ttgacatcgg cg 22

<210> 408

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 408

ttagttgctc cattcaggag gatctaccct tctcctgaa atccgcggaa 50

<210> 409  
<211> 1379  
<212> DNA  
<213> Homo sapiens

<400> 409  
accacgcgt ccgccacgc gtccgccac gcgtccgcc acgcgtccgc 50  
gcgtagccgt gcgccattg cctctcggcc tgggcaatgg tcccggtgc 100  
cggtcgacga ccgccccgcg tcatcggct cctcggctgg tggcaagtat 150  
tgctgtgggt gctgggactt cccgtccgcg gcgtggaggt tgcagaggaa 200  
agtggtcgct tatggtcaga ggagcagcct gtcaccctc tccaggtggg 250  
ggctgtgtac ctgggtgagg aggagctcct gcatgaccgc atgggccagg 300  
acagggcagc agaagaggcc aatgcggtgc tggggctgga cacccaaggc 350  
gatcacatgg tgatgctgc tgtgattcct ggggaagctg aggacaaagt 400  
gagttcagag cctagcggcg tcacctgtgg tgctggagga gcggaggact 450  
caagtgcaa cgtccgagag agcctttct ctctggatgg cgctggagca 500  
cacttccctg acagagaaga ggagtattac acagagccag aagtggcgga 550  
atctgacgca gccccgacag aggactcaa taactgaa agtctgaaat 600  
ccccaaaggt gaactgtgag gagagaaaca ttacaggatt agaaaattc 650  
actctgaaaa ttttaatat gtcacaggac cttatggatt tctgaacc 700  
aaacggtagt gactgtactc tagtctgtt ttacacccg tggtgccgct 750  
ttctgccag tttggccct cactttaact ctctccccg ggcatttca 800  
gctcttcaact tttggcact ggatgcatct cagcacagca gcctttctac 850  
caggtttggc accgtagctg ttctaatat ttattatt caaggagcta 900  
aaccaatggc cagatttaac catacagatc gaactgga aactgaaa 950  
atcttcattt ttaatcagac aggtatagaa gccaagaaga atgtggtgt 1000

aactcaagcc gaccaaatag gcctcttcc cagcacttg ataaaaagtg 1050

tggactggtt gcttgattt tccttattct ttttaattag ttttattatg 1100

tatgctacca ttcgaactga gattattcgg tggctaattc caggacaaga 1150

gcaggaacat gtggagtagt gatggctga aagaagtgg aaagaggaac 1200

ttcaatcctt cgtttcagaa attagtgcta cagttcata cattttctcc 1250

agtgacgtgt tgactgaaa cttcaggcag attaaaagaa tcattgttg 1300

aacaactgaa tgtataaaaa aattataaac tgggtttta actagtattg 1350

caataagcaa atgcaaaaat attcaatag 1379

<210> 410

<211> 360

<212> PRT

<213> Homo sapiens

<400> 410

Met Val Pro Ala Ala Gly Arg Arg Pro Pro Arg Val Met Arg Leu

1 5 10 15

Leu Gly Trp Trp Gln Val Leu Leu Trp Val Leu Gly Leu Pro Val

20 25 30

Arg Gly Val Glu Val Ala Glu Glu Ser Gly Arg Leu Trp Ser Glu

35 40 45

Glu Gln Pro Ala His Pro Leu Gln Val Gly Ala Val Tyr Leu Gly

50 55 60

Glu Glu Glu Leu Leu His Asp Pro Met Gly Gln Asp Arg Ala Ala

65 70 75

Glu Glu Ala Asn Ala Val Leu Gly Leu Asp Thr Gln Gly Asp His

80 85 90

Met Val Met Leu Ser Val Ile Pro Gly Glu Ala Glu Asp Lys Val

95 100 105

Ser Ser Glu Pro Ser Gly Val Thr Cys Gly Ala Gly Gly Ala Glu

110 115 120

Asp Ser Arg Cys Asn Val Arg Glu Ser Leu Phe Ser Leu Asp Gly  
125 130 135

Ala Gly Ala His Phe Pro Asp Arg Glu Glu Glu Tyr Tyr Thr Glu  
140 145 150

Pro Glu Val Ala Glu Ser Asp Ala Ala Pro Thr Glu Asp Ser Asn  
155 160 165

Asn Thr Glu Ser Leu Lys Ser Pro Lys Val Asn Cys Glu Glu Arg  
170 175 180

Asn Ile Thr Gly Leu Glu Asn Phe Thr Leu Lys Ile Leu Asn Met  
185 190 195

Ser Gln Asp Leu Met Asp Phe Leu Asn Pro Asn Gly Ser Asp Cys  
200 205 210

Thr Leu Val Leu Phe Tyr Thr Pro Trp Cys Arg Phe Ser Ala Ser  
215 220 225

Leu Ala Pro His Phe Asn Ser Leu Pro Arg Ala Phe Pro Ala Leu  
230 235 240

His Phe Leu Ala Leu Asp Ala Ser Gln His Ser Ser Leu Ser Thr  
245 250 255

Arg Phe Gly Thr Val Ala Val Pro Asn Ile Leu Leu Phe Gln Gly  
260 265 270

Ala Lys Pro Met Ala Arg Phe Asn His Thr Asp Arg Thr Leu Glu  
275 280 285

Thr Leu Lys Ile Phe Ile Phe Asn Gln Thr Gly Ile Glu Ala Lys  
290 295 300

Lys Asn Val Val Val Thr Gln Ala Asp Gln Ile Gly Pro Leu Pro  
305 310 315

Ser Thr Leu Ile Lys Ser Val Asp Trp Leu Leu Val Phe Ser Leu  
320 325 330

Phe Phe Leu Ile Ser Phe Ile Met Tyr Ala Thr Ile Arg Thr Glu  
335 340 345

Ser Ile Arg Trp Leu Ile Pro Gly Gln Glu Gln Glu His Val Glu  
350 355 360

<210> 411  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 411  
cacagagcca gaagtggcgg aatc 24

<210> 412  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 412  
ccacatgttc ctgctcttgc cctgg 25

<210> 413  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 413  
cggtagtgac tgtactctag tcctgttta caccccgtag tgccg 45

<210> 414  
<211> 1196  
<212> DNA  
<213> Homo sapiens

<400> 414  
cccggctccg ctcctctgc ccctcgggg tcgctgccc acgatgctgc 50

agggcctgg ctcgctgctg ctgctctcc tcgctcgcga ctgctgctg 100

ggctcggcgc gcgggctctt cctctttggc cagcccgact tctctacaa 150  
gcgcagcaat tgcaagccca tcccggtaa cctgcagctg tgccacggca 200  
tcgaatacca gaacatgctg ctgccaacc tgctgggcca cgagaccatg 250  
aaggaggtgc tggagcaggc cggcgcttgg atcccgtgg tcatgaagca 300  
gtgccacccg gacaccaaga agttctgtg ctgctcttc gccccgtct 350  
gcctcgatga cctagacgag accatccagc catgccactc gctctgcgtg 400  
caggtgaagg accgctgcgc cccggtcatg tccgccttcg gcttcccctg 450  
gcccgatg cttgagtgcg accgtttccc ccaggacaac gacctttgca 500  
tccccctgc tagcagcgac cacctctgc cagccaccga ggaagctcca 550  
aaggtatgtg aagcctgcaa aataaaaat gatgatgaca acgacataat 600  
ggaaacgctt tgtaaaaatg atttgcact gaaaataaaa gtgaaggaga 650  
taacctacat caaccgagat accaaaatca tctggagac caagagcaag 700  
accatttaca agctgaacgg tgtgtccgaa agggacctga agaaatcgg 750  
gctgtggctc aaagacagct tgcagtgcac ctgtgaggag atgaacgaca 800  
tcaacgcgcc ctatctggtc atgggacaga aacagggtgg ggagctggtg 850  
atcacctcgg tgaagcggtg gcagaagggg cagagagagt tcaagcgc 900  
ctcccgcagc atccgcaagc tgcagtgcta gtcccggcat cctgatggct 950  
ccgacaggcc tgctccagag cacggctgac catttctgct ccgggatctc 1000  
agctcccgtt cccaagcac actcctagct gctccagtct cagcctgggc 1050  
agcttcccc tgcttttgc acgtttgcat ccccagcatt tctgagtta 1100  
taaggccaca ggagtggata gctgtttca cctaaaggaa aagcccacc 1150  
gaatcttga gaatattca aactaataaa atcatgaata ttttaa 1196

<211> 295  
<212> PRT  
<213> Homo sapiens

<400> 415  
Met Leu Gln Gly Pro Gly Ser Leu Leu Leu Phe Leu Ala Ser  
1 5 10 15

His Cys Cys Leu Gly Ser Ala Arg Gly Leu Phe Leu Phe Gly Gln  
20 25 30

Pro Asp Phe Ser Tyr Lys Arg Ser Asn Cys Lys Pro Ile Pro Val  
35 40 45

Asn Leu Gln Leu Cys His Gly Ile Glu Tyr Gln Asn Met Arg Leu  
50 55 60

Pro Asn Leu Leu Gly His Glu Thr Met Lys Glu Val Leu Glu Gln  
65 70 75

Ala Gly Ala Trp Ile Pro Leu Val Met Lys Gln Cys His Pro Asp  
80 85 90

Thr Lys Lys Phe Leu Cys Ser Leu Phe Ala Pro Val Cys Leu Asp  
95 100 105

Asp Leu Asp Glu Thr Ile Gln Pro Cys His Ser Leu Cys Val Gln  
110 115 120

Val Lys Asp Arg Cys Ala Pro Val Met Ser Ala Phe Gly Phe Pro  
125 130 135

Trp Pro Asp Met Leu Glu Cys Asp Arg Phe Pro Gln Asp Asn Asp  
140 145 150

Leu Cys Ile Pro Leu Ala Ser Ser Asp His Leu Leu Pro Ala Thr  
155 160 165

Glu Glu Ala Pro Lys Val Cys Glu Ala Cys Lys Asn Lys Asn Asp  
170 175 180

Asp Asp Asn Asp Ile Met Glu Thr Leu Cys Lys Asn Asp Phe Ala  
185 190 195

Leu Lys Ile Lys Val Lys Glu Ile Thr Tyr Ile Asn Arg Asp Thr



200 205 210

Lys Ile Ile Leu Glu Thr Lys Ser Lys Thr Ile Tyr Lys Leu Asn  
215 220 225

Gly Val Ser Glu Arg Asp Leu Lys Lys Ser Val Leu Trp Leu Lys  
230 235 240

Asp Ser Leu Gln Cys Thr Cys Glu Glu Met Asn Asp Ile Asn Ala  
245 250 255

Pro Tyr Leu Val Met Gly Gln Lys Gln Gly Gly Glu Leu Val Ile  
260 265 270

Thr Ser Val Lys Arg Trp Gln Lys Gly Gln Arg Glu Phe Lys Arg  
275 280 285

Ile Ser Arg Ser Ile Arg Lys Leu Gln Cys  
290 295

<210> 416

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 416

cctggctcgc tgctgctgct c 21

<210> 417

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 417

cctcacaggt gcaactgcaag ctgtc 25

<210> 418

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 418

ctcttctct tggccagcc cgacttctcc tacaagcgca gaattgc 47

<210> 419

<211> 1830

<212> DNA

<213> Homo sapiens

<400> 419

gtggaggccg cgcacgatgg cggggccgac ggaggccgag acggggttgg 50

ccgagccccg ggccctgtgc gcgcagcggg gccaccgcac ctacgcgcgc 100

cgctgggtgt tctgctcgc gatcagcctg ctcaactgct ccaacgccac 150

gctgtggctc agcttgcac ctgtggctga cgtcattgct gaggacttg 200

tctgtccat ggagcagatc aactggctgt cactggtcta cctcgtgta 250

tccacccat ttggcgtggc ggccatctgg atcctggact ccgtcgggct 300

ccgtgcggcg accatcctgg gtgcgtggct gaactttgcc gggagtgtgc 350

tacgcatggt gccctgcatg gttgttggga cccaaaacce attgccttc 400

ctcatgggtg gccagagcct ctgtgccctt gccagagcc tggatcatt 450

ctctccagcc aagctggctg ccttgggtt ccagagcac cagcgagcca 500

cggccaacat gctcggcacc atgctgaacc ctctgggctg ccttgggcc 550

aatgtgctgt cccctgtgct gtcaagaag ggtgaggaca ttccgtaat 600

gctcgggtgc tataccatcc ctgtggcgt cgtctgctg ctgtccacca 650

tctgctgtg ggagagtgtg cccccaccc cgcctctgc cggggctgcc 700

agctccacct cagagaagt cctggatggg ctcaagctgc agctcatgtg 750

gaacaaggcc tatgtatcc tggctgtgtg cttgggggga atgatcggga 800

tctctgccag cttctcagcc ctcttgagc agatcctctg tgcaagcggc 850  
cactccagtg ggtttccgg cctctgtggc gctctctca tcacgtttg 900  
gatcctgggg gcactggctc tcggccccta tgtggaccgg accaagcact 950  
tactgaggc caccaagatt ggctgtgcc tgttctctt ggctgcgtg 1000  
cccttgccc tgggtccca gctgcaggga cagaccctg ccctggctgc 1050  
cacctgctcg ctgctgggc tgtttggctt ctggtgggc cccgtggcca 1100  
tggagtggc ggtcagtggt tcctccccg tgggggaggg ggctgccaca 1150  
ggcatgatct ttgtctggg gcaggccgag ggaatactca tcagtctgc 1200  
aatgacggca ctgactgtc gacgctcga gccgtcctg tccacctgcc 1250  
agcaggggga ggatccactt gactggacag tgtctctgct gctgatggc 1300  
ggctgtgca cttctcag ctgcatcctg gcggtcttct tccacacccc 1350  
ataccggcg ctgcaggccg agtctgggga gccccctcc acccgtaacg 1400  
ccgtggcgcg cgcagactca gggccgggtg tggaccgagg gggagcagga 1450  
agggtgggg tctggggcc cagcacggcg actccggagt gcacggcgag 1500  
gggggcctcg ctgaggacc ccagagggcc cgggagcccc caccagcct 1550  
gccaccgagc gactccccgt gcgcaaggcc cagcagccac cgacgcgccc 1600  
tccgccccg gcagactcg aggcagggtc caagcgtcca ggittattga 1650  
cccggctggg tctactcct cttctcctc cccgtgggtg atcacgtagc 1700  
tgagcgctt gtagccagg ttgcccga catcgtatga ggcaactgg 1750  
aacatctggt ccactgcgg gcgggggga aagggtctct tgcgggtcc 1800  
gggagcgaat tacaagcgcg cacctgaaaa 1830

<210> 420  
<211> 560  
<212> PRT

<213> Homo sapiens

<400> 420

Met Ala Gly Pro Thr Glu Ala Glu Thr Gly Leu Ala Glu Pro Arg

1            5            10            15

Ala Leu Cys Ala Gln Arg Gly His Arg Thr Tyr Ala Arg Arg Trp

20            25            30

Val Phe Leu Leu Ala Ile Ser Leu Leu Asn Cys Ser Asn Ala Thr

35            40            45

Leu Trp Leu Ser Phe Ala Pro Val Ala Asp Val Ile Ala Glu Asp

50            55            60

Leu Val Leu Ser Met Glu Gln Ile Asn Trp Leu Ser Leu Val Tyr

65            70            75

Leu Val Val Ser Thr Pro Phe Gly Val Ala Ala Ile Trp Ile Leu

80            85            90

Asp Ser Val Gly Leu Arg Ala Ala Thr Ile Leu Gly Ala Trp Leu

95            100            105

Asn Phe Ala Gly Ser Val Leu Arg Met Val Pro Cys Met Val Val

110            115            120

Gly Thr Gln Asn Pro Phe Ala Phe Leu Met Gly Gly Gln Ser Leu

125            130            135

Cys Ala Leu Ala Gln Ser Leu Val Ile Phe Ser Pro Ala Lys Leu

140            145            150

Ala Ala Leu Trp Phe Pro Glu His Gln Arg Ala Thr Ala Asn Met

155            160            165

Leu Ala Thr Met Ser Asn Pro Leu Gly Val Leu Val Ala Asn Val

170            175            180

Leu Ser Pro Val Leu Val Lys Lys Gly Glu Asp Ile Pro Leu Met

185            190            195

Leu Gly Val Tyr Thr Ile Pro Ala Gly Val Val Cys Leu Leu Ser

200            205            210

Thr Ile Cys Leu Trp Glu Ser Val Pro Pro Thr Pro Pro Ser Ala  
215 220 225

Gly Ala Ala Ser Ser Thr Ser Glu Lys Phe Leu Asp Gly Leu Lys  
230 235 240

Leu Gln Leu Met Trp Asn Lys Ala Tyr Val Ile Leu Ala Val Cys  
245 250 255

Leu Gly Gly Met Ile Gly Ile Ser Ala Ser Phe Ser Ala Leu Leu  
260 265 270

Glu Gln Ile Leu Cys Ala Ser Gly His Ser Ser Gly Phe Ser Gly  
275 280 285

Leu Cys Gly Ala Leu Phe Ile Thr Phe Gly Ile Leu Gly Ala Leu  
290 295 300

Ala Leu Gly Pro Tyr Val Asp Arg Thr Lys His Phe Thr Glu Ala  
305 310 315

Thr Lys Ile Gly Leu Cys Leu Phe Ser Leu Ala Cys Val Pro Phe  
320 325 330

Ala Leu Val Ser Gln Leu Gln Gly Gln Thr Leu Ala Leu Ala Ala  
335 340 345

Thr Cys Ser Leu Leu Gly Leu Phe Gly Phe Ser Val Gly Pro Val  
350 355 360

Ala Met Glu Leu Ala Val Glu Cys Ser Phe Pro Val Gly Glu Gly  
365 370 375

Ala Ala Thr Gly Met Ile Phe Val Leu Gly Gln Ala Glu Gly Ile  
380 385 390

Leu Ile Met Leu Ala Met Thr Ala Leu Thr Val Arg Arg Ser Glu  
395 400 405

Pro Ser Leu Ser Thr Cys Gln Gln Gly Glu Asp Pro Leu Asp Trp  
410 415 420

Thr Val Ser Leu Leu Leu Met Ala Gly Leu Cys Thr Phe Phe Ser  
425 430 435

Cys Ile Leu Ala Val Phe Phe His Thr Pro Tyr Arg Arg Leu Gln  
440 445 450

Ala Glu Ser Gly Glu Pro Pro Ser Thr Arg Asn Ala Val Gly Gly  
455 460 465

Ala Asp Ser Gly Pro Gly Val Asp Arg Gly Gly Ala Gly Arg Ala  
470 475 480

Gly Val Leu Gly Pro Ser Thr Ala Thr Pro Glu Cys Thr Ala Arg  
485 490 495

Gly Ala Ser Leu Glu Asp Pro Arg Gly Pro Gly Ser Pro His Pro  
500 505 510

Ala Cys His Arg Ala Thr Pro Arg Ala Gln Gly Pro Ala Ala Thr  
515 520 525

Asp Ala Pro Ser Arg Pro Gly Arg Leu Ala Gly Arg Val Gln Ala  
530 535 540

Ser Arg Phe Ile Asp Pro Ala Gly Ser His Ser Ser Phe Ser Ser  
545 550 555

Pro Trp Val Ile Thr  
560

<210> 421

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 421

agcttctcag ccctcctgga gcag 24

<210> 422

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 422  
cgggtcaata aacctggacg cttgg 25

<210> 423  
<211> 43  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 423  
tatgtggacc ggaccaagca cttcactgag gccaccaaga ttg 43

<210> 424  
<211> 4313  
<212> DNA  
<213> Homo sapiens

<400> 424  
gtccacatc ctgctcaact gggtcaggtc cctcttagac cagctcttgt 50  
ccatcattg ctgaagtga ccaactagt cccagtagg gggctcccc 100  
tggcaattct tgatcggcgt ttgacatct cagatcgctt ccaatgaaga 150  
tggccttggc ttggggctct gcttgtttca taatcatcta actatgggac 200  
aaggttgtgc cggcagctct gggggaagga gcacggggct gatcaagcca 250  
tccaggaaac actggaggac ttgtccagcc ttgaaagaac tctagtgggt 300  
tctgaatcta gccacttgg cggtaaagcat gatgcaactt ctgcaacttc 350  
tgctggggct tttggggcca ggtggctact tatttctttt aggggattgt 400  
caggaggtga ccaactcac ggtgaaatac caaggtcag aggaagtgcc 450  
atctgttaca gtgatcggga agctgtccca ggaactgggc cgggaggaga 500  
ggcggaggca agctggggcc gccttcagg tgtgcagct gcctcaggcg 550  
ctccccattc agtgggactc tgaggaagcc ttgctcagca caggcaggcg 600  
gctggatcga gagcagctgt gccgacagtg ggatccctgc ctggtttcct 650

ttgatgtgct tgccacaggg gatttgctc tgatccatgt ggagatcaa 700  
gtgctggaca tcaatgacca ccagccacgg tttcccaaag gcgagcagga 750  
gctggaaatc tctgagagcg cctctctgcg aaccggatc ccctggaca 800  
gagctctga cccagacaca ggcctaaca cctgcacac ctacactctg 850  
tctcccagtg agcacttgc cttggatgtc attgtgggcc ctgatgagac 900  
caaacatgca gaactcatag tgggaagga gctggacagg gaaatccatt 950  
catttttga tctggtgta actgcctatg acaatggga ccccccaag 1000  
tcaggtacca gcttggtaa ggtcaacgtc ttggactcca atgacaatag 1050  
ccctgcgtt gctgagagtt cactggcact ggaaatcaa gaagatgctg 1100  
cacctgttac gcttctata aaactgaccg ccacagacc tgaccaaggc 1150  
cccaatgggg aggtggagtt cttcctcagt aagcacatgc ctccagaggt 1200  
gctggacacc ttcagtattg atgccaagac aggccaggtc attctgcgtc 1250  
gacctctaga ctatgaaaag aaccctgcct acgaggtgga tgttcaggca 1300  
agggacctgg gtccaatcc tatcccagcc cattgcaaag ttctcatcaa 1350  
ggttctggat gtcaatgaca acatccaag catccacgtc acatgggct 1400  
cccagccatc actggtgtca gaagctcttc ccaaggacag ttttattgct 1450  
cttgtcatgg cagatgactt ggattcagga cacaatggtt tggtcactg 1500  
ctggctgagc caagagctgg gccacttcag gctgaaaaga actaatggca 1550  
acacatacat gttgtaacc aatgccacac tggacagaga gcagtggccc 1600  
aaatataccc tcaactctgt agcccaagac caaggactcc agcccttacc 1650  
agccaagaaa cagctcagca ttcagatcag tgacatcaac gacaatgac 1700  
ctgtgttga gaaaagcagg tatgaagtct ccacgcggga aaacaactta 1750  
ccctctcttc acctcattac catcaaggct catgatgcag acttgggcat 1800



taatgaaaa gtctcatacc gcatccagga ctccccagtt gctcacttag 1850  
tagctattga ctccaacaca ggagaggtca ctgctcagag gtcactgaac 1900  
tatgaagaga tggccggctt tgagttccag gtgatcgag aggacagcgg 1950  
gcaacccatg ctgcatcca gtgtctctgt gtgggtcagc ctcttgatg 2000  
ccaatgataa tgccccagag gtgggtccagc ctgtgctcag cgatggaaaa 2050  
gccagcctct ccgtgcttgt gaatgcctcc acaggccacc tgctgggtcc 2100  
catcgagact cccaatggct tgggccagc gggcactgac acacctccac 2150  
tggccactca cagctcccgg ccattccttt tgacaacat tgtggcaaga 2200  
gatgcagact cgggggcaaa tggagagccc ctctacagca tccgcaatgg 2250  
aatgaagcc cacctctca tcctcaacc tcatacgggg cagctgttcg 2300  
tcaatgtcac caatgccagc agcctcattg ggagtgagtg ggagctggag 2350  
atagtagtag aggaccaggg aagcccccc ttacagacc gagccctgtt 2400  
gagggtcatg tttgcacca gtgtggacca cctgagggac tcagcccga 2450  
agcctggggc ctgagcatg tcgatgctga cgggatctg cctggctgta 2500  
ctgttgggca tcttcgggtt gatcctggct ttgtcatgt ccatctgccg 2550  
gacagaaaag aaggacaaca gggcctaca ctgtcgggag gccgagtcca 2600  
cctaccgcca gcagcccaag aggccccaga aacacattca gaaggcagac 2650  
atccacctcg tgctgtgct caggggtcag gcaggtgagc cttgtgaagt 2700  
cgggcagtcc cacaagatg tggacaagga ggcgatgatg gaagcaggct 2750  
gggaccctg cctgcaggcc ccctccacc tcacccgac cctgtacagg 2800  
acgtgcgta atcaaggcaa ccaggagca ccggcggaga gccgagaggt 2850  
gctgcaagac acggtaacc tcctttcaa ccatcccagg cagaggaatg 2900  
cctcccggga gaacctgaac ctcccagc cccagcctgc cacaggccag 2950

ccacgttcca ggctctgaa ggtgcaggc agccccacag ggaggctggc 3000  
tggagaccag ggcagtgagg aagccccaca gaggccacca gcctcctctg 3050  
caaccctgag acggcagcga catctcaatg gcaaagtgtc cctgagaaa 3100  
gaatcagggc cccgtcagat cctgcggagc ctggtccggc tgtctgtggc 3150  
tgccttcgcc gagcggaaacc ccgtggagga gctcactgtg gattctctc 3200  
ctgttcagca aatctcccag ctgctgtcct tgctgcatca gggccaattc 3250  
cagcccaaac caaaccaccg aggaaataag tacttgcca agccaggagg 3300  
cagcaggagt gcaatcccag acacagatgg cccaagtgca agggctggag 3350  
gccagacaga ccagaacag gaggaagggc ctttgatcc tgaagaggac 3400  
ctctctgga agcaactgct agaagaagag ctgcaagtc tgctggacc 3450  
cagcacaggt ctggccctgg accggctgag cgcccctgac ccggcctgga 3500  
tggcgagact cictttgcc ctcaccacca actaccgtga caatgtgatc 3550  
tccccgatg ctgcagccac ggaggagccg aggacctcc agacgttcgg 3600  
caaggcagag gcaccagagc tgagcccaac aggcacgagg ctggccagca 3650  
cctttgtctc ggagatgagc tcaactgctgg agatgtgtct ggaacagcgc 3700  
tccagcatgc ccgtggaggc cgcctccgag gcgctgcggc ggctctcgg 3750  
ctgcgggagg accctcagtt tagacttggc caccagtgca gcctcaggca 3800  
tgaaagtgca aggggacca ggtggaaaga cggggactga gggcaagagc 3850  
agaggcagca gcagcagcag caggtgcctg tgaacatacc tcagagcct 3900  
ctggatcaa gaaccagggg cctgaggatc tgtggacaag agctggttc 3950  
taaatcttg taactacta gctagcggcg gcctgagaac ttagggtga 4000  
ctgatgctac cccacagag gaggcaagag cccaggact aacagctgac 4050  
tgaccaaagc agcccctgt aagcagctct gactctttg gaggacagg 4100

acggtttgtg gctgagataa gtgttctctg gcaaaacata tgtggagcac 4150

aaagggtcag tcctctggca gaacagatgc cacggagtat cacaggcagg 4200

aaagggtggc cttcttgggt agcaggagtc agggggctgt acctggggg 4250

tgccaggaaa tgctctctga cctatcaata aaggaaaagc agtaaaaaaa 4300

aaaaaaaaaaa aaa 4313

<210> 425

<211> 1184

<212> PRT

<213> Homo sapiens

<400> 425

Met Met Gln Leu Leu Gln Leu Leu Leu Gly Leu Leu Gly Pro Gly  
1 5 10 15

Gly Tyr Leu Phe Leu Leu Gly Asp Cys Gln Glu Val Thr Thr Leu  
20 25 30

Thr Val Lys Tyr Gln Val Ser Glu Glu Val Pro Ser Gly Thr Val  
35 40 45

Ile Gly Lys Leu Ser Gln Glu Leu Gly Arg Glu Glu Arg Arg Arg  
50 55 60

Gln Ala Gly Ala Ala Phe Gln Val Leu Gln Leu Pro Gln Ala Leu  
65 70 75

Pro Ile Gln Val Asp Ser Glu Glu Gly Leu Leu Ser Thr Gly Arg  
80 85 90

Arg Leu Asp Arg Glu Gln Leu Cys Arg Gln Trp Asp Pro Cys Leu  
95 100 105

Val Ser Phe Asp Val Leu Ala Thr Gly Asp Leu Ala Leu Ile His  
110 115 120

Val Glu Ile Gln Val Leu Asp Ile Asn Asp His Gln Pro Arg Phe  
125 130 135

Pro Lys Gly Glu Gln Glu Leu Glu Ile Ser Glu Ser Ala Ser Leu  
140 145 150

Arg Thr Arg Ile Pro Leu Asp Arg Ala Leu Asp Pro Asp Thr Gly  
155 160 165

Pro Asn Thr Leu His Thr Tyr Thr Leu Ser Pro Ser Glu His Phe  
170 175 180

Ala Leu Asp Val Ile Val Gly Pro Asp Glu Thr Lys His Ala Glu  
185 190 195

Leu Ile Val Val Lys Glu Leu Asp Arg Glu Ile His Ser Phe Phe  
200 205 210

Asp Leu Val Leu Thr Ala Tyr Asp Asn Gly Asn Pro Pro Lys Ser  
215 220 225

Gly Thr Ser Leu Val Lys Val Asn Val Leu Asp Ser Asn Asp Asn  
230 235 240

Ser Pro Ala Phe Ala Glu Ser Ser Leu Ala Leu Glu Ile Gln Glu  
245 250 255

Asp Ala Ala Pro Gly Thr Leu Leu Ile Lys Leu Thr Ala Thr Asp  
260 265 270

Pro Asp Gln Gly Pro Asn Gly Glu Val Glu Phe Phe Leu Ser Lys  
275 280 285

His Met Pro Pro Glu Val Leu Asp Thr Phe Ser Ile Asp Ala Lys  
290 295 300

Thr Gly Gln Val Ile Leu Arg Arg Pro Leu Asp Tyr Glu Lys Asn  
305 310 315

Pro Ala Tyr Glu Val Asp Val Gln Ala Arg Asp Leu Gly Pro Asn  
320 325 330

Pro Ile Pro Ala His Cys Lys Val Leu Ile Lys Val Leu Asp Val  
335 340 345

Asn Asp Asn Ile Pro Ser Ile His Val Thr Trp Ala Ser Gln Pro  
350 355 360

Ser Leu Val Ser Glu Ala Leu Pro Lys Asp Ser Phe Ile Ala Leu  
365 370 375

Val Met Ala Asp Asp Leu Asp Ser Gly His Asn Gly Leu Val His  
380 385 390

Cys Trp Leu Ser Gln Glu Leu Gly His Phe Arg Leu Lys Arg Thr  
395 400 405

Asn Gly Asn Thr Tyr Met Leu Leu Thr Asn Ala Thr Leu Asp Arg  
410 415 420

Glu Gln Trp Pro Lys Tyr Thr Leu Thr Leu Leu Ala Gln Asp Gln  
425 430 435

Gly Leu Gln Pro Leu Ser Ala Lys Lys Gln Leu Ser Ile Gln Ile  
440 445 450

Ser Asp Ile Asn Asp Asn Ala Pro Val Phe Glu Lys Ser Arg Tyr  
455 460 465

Glu Val Ser Thr Arg Glu Asn Asn Leu Pro Ser Leu His Leu Ile  
470 475 480

Thr Ile Lys Ala His Asp Ala Asp Leu Gly Ile Asn Gly Lys Val  
485 490 495

Ser Tyr Arg Ile Gln Asp Ser Pro Val Ala His Leu Val Ala Ile  
500 505 510

Asp Ser Asn Thr Gly Glu Val Thr Ala Gln Arg Ser Leu Asn Tyr  
515 520 525

Glu Glu Met Ala Gly Phe Glu Phe Gln Val Ile Ala Glu Asp Ser  
530 535 540

Gly Gln Pro Met Leu Ala Ser Ser Val Ser Val Trp Val Ser Leu  
545 550 555

Leu Asp Ala Asn Asp Asn Ala Pro Glu Val Val Gln Pro Val Leu  
560 565 570

Ser Asp Gly Lys Ala Ser Leu Ser Val Leu Val Asn Ala Ser Thr  
575 580 585

Gly His Leu Leu Val Pro Ile Glu Thr Pro Asn Gly Leu Gly Pro  
590 595 600

Ala Gly Thr Asp Thr Pro Pro Leu Ala Thr His Ser Ser Arg Pro  
605 610 615

Phe Leu Leu Thr Thr Ile Val Ala Arg Asp Ala Asp Ser Gly Ala  
620 625 630

Asn Gly Glu Pro Leu Tyr Ser Ile Arg Asn Gly Asn Glu Ala His  
635 640 645

Leu Phe Ile Leu Asn Pro His Thr Gly Gln Leu Phe Val Asn Val  
650 655 660

Thr Asn Ala Ser Ser Leu Ile Gly Ser Glu Trp Glu Leu Glu Ile  
665 670 675

Val Val Glu Asp Gln Gly Ser Pro Pro Leu Gln Thr Arg Ala Leu  
680 685 690

Leu Arg Val Met Phe Val Thr Ser Val Asp His Leu Arg Asp Ser  
695 700 705

Ala Arg Lys Pro Gly Ala Leu Ser Met Ser Met Leu Thr Val Ile  
710 715 720

Cys Leu Ala Val Leu Leu Gly Ile Phe Gly Leu Ile Leu Ala Leu  
725 730 735

Phe Met Ser Ile Cys Arg Thr Glu Lys Lys Asp Asn Arg Ala Tyr  
740 745 750

Asn Cys Arg Glu Ala Glu Ser Thr Tyr Arg Gln Gln Pro Lys Arg  
755 760 765

Pro Gln Lys His Ile Gln Lys Ala Asp Ile His Leu Val Pro Val  
770 775 780

Leu Arg Gly Gln Ala Gly Glu Pro Cys Glu Val Gly Gln Ser His  
785 790 795

Lys Asp Val Asp Lys Glu Ala Met Met Glu Ala Gly Trp Asp Pro  
800 805 810

Cys Leu Gln Ala Pro Phe His Leu Thr Pro Thr Leu Tyr Arg Thr  
815 820 825

Leu Arg Asn Gln Gly Asn Gln Gly Ala Pro Ala Glu Ser Arg Glu  
830 835 840

Val Leu Gln Asp Thr Val Asn Leu Leu Phe Asn His Pro Arg Gln  
845 850 855

Arg Asn Ala Ser Arg Glu Asn Leu Asn Leu Pro Glu Pro Gln Pro  
860 865 870

Ala Thr Gly Gln Pro Arg Ser Arg Pro Leu Lys Val Ala Gly Ser  
875 880 885

Pro Thr Gly Arg Leu Ala Gly Asp Gln Gly Ser Glu Glu Ala Pro  
890 895 900

Gln Arg Pro Pro Ala Ser Ser Ala Thr Leu Arg Arg Gln Arg His  
905 910 915

Leu Asn Gly Lys Val Ser Pro Glu Lys Glu Ser Gly Pro Arg Gln  
920 925 930

Ile Leu Arg Ser Leu Val Arg Leu Ser Val Ala Ala Phe Ala Glu  
935 940 945

Arg Asn Pro Val Glu Glu Leu Thr Val Asp Ser Pro Pro Val Gln  
950 955 960

Gln Ile Ser Gln Leu Leu Ser Leu Leu His Gln Gly Gln Phe Gln  
965 970 975

Pro Lys Pro Asn His Arg Gly Asn Lys Tyr Leu Ala Lys Pro Gly  
980 985 990

Gly Ser Arg Ser Ala Ile Pro Asp Thr Asp Gly Pro Ser Ala Arg  
995 1000 1005

Ala Gly Gly Gln Thr Asp Pro Glu Gln Glu Glu Gly Pro Leu Asp  
1010 1015 1020

Pro Glu Glu Asp Leu Ser Val Lys Gln Leu Leu Glu Glu Glu Leu  
1025 1030 1035

Ser Ser Leu Leu Asp Pro Ser Thr Gly Leu Ala Leu Asp Arg Leu  
1040 1045 1050

Ser Ala Pro Asp Pro Ala Trp Met Ala Arg Leu Ser Leu Pro Leu  
1055 1060 1065

Thr Thr Asn Tyr Arg Asp Asn Val Ile Ser Pro Asp Ala Ala Ala  
1070 1075 1080

Thr Glu Glu Pro Arg Thr Phe Gln Thr Phe Gly Lys Ala Glu Ala  
1085 1090 1095

Pro Glu Leu Ser Pro Thr Gly Thr Arg Leu Ala Ser Thr Phe Val  
1100 1105 1110

Ser Glu Met Ser Ser Leu Leu Glu Met Leu Leu Glu Gln Arg Ser  
1115 1120 1125

Ser Met Pro Val Glu Ala Ala Ser Glu Ala Leu Arg Arg Leu Ser  
1130 1135 1140

Val Cys Gly Arg Thr Leu Ser Leu Asp Leu Ala Thr Ser Ala Ala  
1145 1150 1155

Ser Gly Met Lys Val Gln Gly Asp Pro Gly Gly Lys Thr Gly Thr  
1160 1165 1170

Glu Gly Lys Ser Arg Gly Ser Ser Ser Ser Ser Arg Cys Leu  
1175 1180

<210> 426

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 426

gtaagcacat gcctccagag gtgc 24

<210> 427

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe



<400> 427  
gtgacgtgga tgcttgggat gttg 24.

<210> 428  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 428  
tggacacctt cagtattgat gccaaagacag gccaggtcat tctgcgtcga 50

<210> 429  
<211> 2037  
<212> DNA  
<213> Homo sapiens

<400> 429  
cggacgcgtg ggcggacgcg tgggggagag ccgcagtccc ggctgcagca 50  
cctgggagaa ggcagaccgt gtgagggggc ctgtggcccc agcgtgctgt 100  
ggcctcgggg agtgggaagt ggaggcagga gccttcctta cacttcgcca 150  
tgagtttct catcgactcc agcatcatga ttacctcca gatactatt 200  
tttgattg ggtggctttt ctcatgcgc caattgtta aagactatga 250  
gatacgtcag tatgtgtac aggtgatctt ctccgtgacg ttgcatttt 300  
ctgcacat gttgagctc atcatcttg aatcttagg agtattgaat 350  
agcagctccc gttatttca ctggaaaatg aacctgtgtg taattctgct 400  
gatcctggtt tcatgggtgc cttttacat tggctatatt attgtgagca 450  
atatccgact actgcataaa caacgactgc tttttcctg tccttatgg 500  
ctgacctta tgatttctt ctggaaacta ggagatccct tcccattct 550  
cagcccaaaa catgggatct tatccataga acagctcacc agccgggttg 600  
gtgtgattg agtgactctc atggctcttc tttctggatt tggctgctgc 650

aactgccat acactfacat gtcttacttc ctggaatg tgactgacac 700  
ggatattcta gccctggaac ggcgactgct gcaaaccatg gatatgatca 750  
taagcaaaaa gaaaaggatg gcaatggcac ggagaacaat gttccagaag 800  
ggggaagtgc ataacaacc atcaggtttc tggggaatga taaaaagtgt 850  
taccacttca gcatcaggaa gtgaaaatct tactcttatt caacaggaag 900  
tggatgcttt ggaagaatta agcaggcagc ttttctgga aacagctgat 950  
ctatatgcta ccaaggagag aatagaatac tccaaaacct tcaaggggaa 1000  
atatttaat tttctgggtt acttttctc tattfactgt gtttgaaaa 1050  
tttcatggc taccatcaat atgtttttg atcgagtgg gaaaacggat 1100  
cctgtcaca gaggcattga gatcactgtg aattatctgg gaatccaatt 1150  
tgatgtgaag ttttggccc aacacatttc ctctattctt gttggaataa 1200  
tcatcgtcac atccatcaga ggattgctga tcaactttac caagttctt 1250  
tatgcatct ctgacgtaa gtctccaat gtcattgtcc tgctattage 1300  
acagataatg ggcatgtact ttgtctcctc tgtgctgctg atccgaatga 1350  
gtatgccttt agaataccgc accataatca ctgaagtctt tggagaactg 1400  
cagttcaact tctatcaccg ttggtttgat gtgatcttcc tggcagcgc 1450  
tctctctage atacttctc tctatttggc tcacaaacag gcaccagaga 1500  
agcaaatggc acctgaact taagcctact acagactgtt agaggccagt 1550  
ggttcaaaa ttagatata agagggggga aaaatggaac cagggcctga 1600  
cattttataa acaacaaaa tgctatgga gcattttca cttcatagc 1650  
atactcttc cccgtcaggt gatactatga ccatgagtag catcagccag 1700  
aacatgagag ggagaactaa ctcaagacaa tactcagcag agagcatccc 1750  
gtgtggatat gaggctggtg tagaggcgga gaggagccaa gaaactaag 1800

gtgaaaaata cactggaact ctggggcaag acatgtctat ggtagctgag 1850

ccaaacacgt aggatttccg ttttaagggt cacatggaaa aggttatagc 1900

tttccttga gattgactca ttaaaatcag agactgtaac aaaaaaaaaa 1950

aaaaaaaaaa agggcggccg cgactctaga gtcgacctgc agaagcttgg 2000

ccgccatggc ccaactgtt tattgcagct tataatg 2037

<210> 430

<211> 455

<212> PRT

<213> Homo sapiens

<400> 430

Met Ser Phe Leu Ile Asp Ser Ser Ile Met Ile Thr Ser Gln Ile

1 5 10 15

Leu Phe Phe Gly Phe Gly Trp Leu Phe Phe Met Arg Gln Leu Phe

20 25 30

Lys Asp Tyr Glu Ile Arg Gln Tyr Val Val Gln Val Ile Phe Ser

35 40 45

Val Thr Phe Ala Phe Ser Cys Thr Met Phe Glu Leu Ile Ile Phe

50 55 60

Glu Ile Leu Gly Val Leu Asn Ser Ser Ser Arg Tyr Phe His Trp

65 70 75

Lys Met Asn Leu Cys Val Ile Leu Leu Ile Leu Val Phe Met Val

80 85 90

Pro Phe Tyr Ile Gly Tyr Phe Ile Val Ser Asn Ile Arg Leu Leu

95 100 105

His Lys Gln Arg Leu Leu Phe Ser Cys Leu Leu Trp Leu Thr Phe

110 115 120

Met Tyr Phe Phe Trp Lys Leu Gly Asp Pro Phe Pro Ile Leu Ser

125 130 135

Pro Lys His Gly Ile Leu Ser Ile Glu Gln Leu Ile Ser Arg Val

140 145 150

Gly Val Ile Gly Val Thr Leu Met Ala Leu Leu Ser Gly Phe Gly  
155 160 165

Ala Val Asn Cys Pro Tyr Thr Tyr Met Ser Tyr Phe Leu Arg Asn  
170 175 180

Val Thr Asp Thr Asp Ile Leu Ala Leu Glu Arg Arg Leu Leu Gln  
185 190 195

Thr Met Asp Met Ile Ile Ser Lys Lys Lys Arg Met Ala Met Ala  
200 205 210

Arg Arg Thr Met Phe Gln Lys Gly Glu Val His Asn Lys Pro Ser  
215 220 225

Gly Phe Trp Gly Met Ile Lys Ser Val Thr Thr Ser Ala Ser Gly  
230 235 240

Ser Glu Asn Leu Thr Leu Ile Gln Gln Glu Val Asp Ala Leu Glu  
245 250 255

Glu Leu Ser Arg Gln Leu Phe Leu Glu Thr Ala Asp Leu Tyr Ala  
260 265 270

Thr Lys Glu Arg Ile Glu Tyr Ser Lys Thr Phe Lys Gly Lys Tyr  
275 280 285

Phe Asn Phe Leu Gly Tyr Phe Phe Ser Ile Tyr Cys Val Trp Lys  
290 295 300

Ile Phe Met Ala Thr Ile Asn Ile Val Phe Asp Arg Val Gly Lys  
305 310 315

Thr Asp Pro Val Thr Arg Gly Ile Glu Ile Thr Val Asn Tyr Leu  
320 325 330

Gly Ile Gln Phe Asp Val Lys Phe Trp Ser Gln His Ile Ser Phe  
335 340 345

Ile Leu Val Gly Ile Ile Ile Val Thr Ser Ile Arg Gly Leu Leu  
350 355 360

Ile Thr Leu Thr Lys Phe Phe Tyr Ala Ile Ser Ser Ser Lys Ser  
365 370 375

Ser Asn Val Ile Val Leu Leu Leu Ala Gln Ile Met Gly Met Tyr  
380 385 390

Phe Val Ser Ser Val Leu Leu Ile Arg Met Ser Met Pro Leu Glu  
395 400 405

Tyr Arg Thr Ile Ile Thr Glu Val Leu Gly Glu Leu Gln Phe Asn  
410 415 420

Phe Tyr His Arg Trp Phe Asp Val Ile Phe Leu Val Ser Ala Leu  
425 430 435

Ser Ser Ile Leu Phe Leu Tyr Leu Ala His Lys Gln Ala Pro Glu  
440 445 450

Lys Gln Met Ala Pro  
455

<210> 431

<211> 407

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 78, 81, 113, 157, 224, 297

<223> unknown base

<400> 431

catgggaagt ggagccggag ccttccttac actcgccatg agtttctca 50

tcgactccag catcatgatt acctccnga nactatntt tggattggg 100

tggctttct tcnegccaa tgttaaaga ctatgagata cgtagtatg 150

ttgtacnggt gatcttctcc gtgacgttg ccattcttg caccatgtt 200

gagctcatca tctttgaaat ctnggagta ttgaatagca gctcccgtta 250

tttctactgg aaaatgaacc tgtgtgtaat tctgctgac ctggtntca 300

tggtgccttt ttacattggc tattttattg tgagcaatat ccgactactg 350

cataaacaac gactgctttt ttctgtctc ttatggctga cctttatgta 400

ttccag 407

<210> 432

<211> 457

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 31, 66, 81-82, 84, 122, 184, 187, 232, 241, 400, 424, 427, 434

<223> unknown base

<400> 432

gtgtgccct tggggagggg aaggggagcc nggcccttc ctaaaattg 50

gccaagggtt tcttnttga attccgggtt nngnatacct tcccagaaaa 100

tatttttgg atttgggga gnttttttc atgcgccaat tgttaaaga 150

ctatgagata cgtcagatg ttgtacaggt gatntntcc gtgacgttg 200

cattttctg caccatgtt gagctcatca tnttgaaat ntaggagta 250

ttgaatagca gctccgta ttttactgg aaaatgaacc tgtgtgtaat 300

tctgctgac ctggtttca tgggccttt ttacattggc tattttattg 350

tgagcaatat ccgactactg cataaacaac gactgctttt ttctgtctn 400

ttatggctga cctttatgta tttntntgg aaantaggag atcccttcc 450

cattctc 457

<210> 433

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 433

aagtggagcc ggagccttcc 20

<210> 434

<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 434  
tcgttgttta tgcagtagtc gg 22

<210> 435  
<211> 41  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 435  
attgtttaa gactatgaga tacgtcagta tgtgtacag g 41

<210> 436  
<211> 3951  
<212> DNA  
<213> Homo sapiens

<400> 436  
ctcgcgcagg gatcgtcca tggccggggc tcggagccgc gacccttggg 50  
gggcctccgg gatttgctac cttttggct cctgctcgt cgaactgctc 100  
tttcacggg ctgctgcctt caatctggac gtgatgggtg ccttgcgaa 150  
ggagggcgag ccaggcagcc tctcggctt ctctgtggcc ctgcaccggc 200  
agttgcagcc ccgaccccag agctggctgc tggagggtgc tcccaggcc 250  
ctggctcttc ctgggcagca ggcgaatcgc actggaggcc tcttcgctt 300  
cccgttgagc ctggaggaga ctgactgcta cagagtggac atcgaccagg 350  
gagctgatat gcaaaaggaa agcaaggaga accagtgggtt gggagtcagt 400  
gttcggagcc aggggcctgg gggcaagatt gttacctgtg cacaccgata 450

tgaggcaagg cagcagtgagg accagatcct ggagacgcgg gatatgattg 500  
gtcgtgctt tgtctcagc caggacctgg ccatccggga tgagttgat 550  
ggtggggaat ggaagttctg tgagggacgc cccaaggcc atgaacaatt 600  
tgggttctgc cagcagggca cagctgccgc ctctcccct gatagccact 650  
acctctctt tggggcccca ggaacctata attggaaggg cacggccagg 700  
gtggagctct gtgcacaggg ctcagcggac ctggcacacc tggacgacgg 750  
tcctacgag gcggggggag agaaggagca ggacccccgc ctcatccgg 800  
tcctgcaa cagctacttt ggcttctta ttgactcggg gaaaggtctg 850  
gtcgtgcag aagagctgag cttgtggct ggagcccc gcgccaacca 900  
caagggtct gtgtcatcc tgcgaagga cagcggcagt cgcctggtgc 950  
ccgaggtat gctgtctggg gagcgcctga cctccggctt tggctactca 1000  
ctggctgtgg ctgacctcaa cagtatggc tggccagacc tgatagtg 1050  
tgccccctac ttcttgagc gccaagaaga gctgggggt gctgtgatg 1100  
tgtactgaa ccaggggggt cactgggctg gcatctccc tctccggctc 1150  
tgggctccc ctgactccat gttcgggatc agcctggctg tctggggga 1200  
cctcaacaa gatggcttc cagatattgc agtgggtgcc cctttgatg 1250  
gtgatggaa agtcttcac taccatggga gcagcctggg ggtgtcgcc 1300  
aaacctcac aggtgctgga gggcaggct gtggcatca agagcttcgg 1350  
ctactccctg tcaggcagct tggatatgga tgggaacaa taccctgacc 1400  
tgctggggg ctcctggct gacaccgag tgctctcag ggccagacc 1450  
atcctcatg tctccatga ggtctctatt gctccagaa gcatcgacct 1500  
ggagcagccc aactgtctg gcggccactc ggtctgtgtg gacctaagg 1550  
tctgttcag ctacattgca gtccccagca gctatagccc tactgtggcc 1600



ctggactatg tgttagatgc ggacacagac cggaggctcc ggggccaggt 1650  
tccccgtg acgttctga gccgtaacct ggaagaacct aagcaccagg 1700  
cctcgggcac cgtgtggctg aagcaccagc atgaccgagt ctgtggagac 1750  
gccatgttc agctccagga aatgtcaaa gacaagcttc gggccattgt 1800  
agtgcacttg tctacagtc tccagacccc tggctccgg cgacaggctc 1850  
ctggccaggg gctgcctcca gtggcccca tctcaatgc ccaccagccc 1900  
agcaccagc gggcagagat ccacttctg aagcaaggct gtggtgaaga 1950  
caagatctgc cagagcaatc tgcagctggt ccacgcccgc ttctgtacc 2000  
gggtcagca cacggaattc caactctgc ccatggatgt ggatggaaca 2050  
acagccctgt ttgactgag tgggcagcca gtcattggcc tggagctgat 2100  
ggtcaccaac ctgccatcg acccagccca gcccaggct gatggggatg 2150  
atgcccata agcccagtc ctggtcatgc ttctgactc actgcactac 2200  
tcaggggtcc gggccctgga cctgaggag aagccactct gcctgtcaa 2250  
tgagaatgcc tccatgttg agtgtgagct ggggaacccc atgaagagag 2300  
gtgcccaggt cacctctac ctcatctta gcacctccgg gatcagcatt 2350  
gagaccacgg aactggaggt agagctgctg ttggccacga tcagtgagca 2400  
ggagctgcat ccagtctctg cagagcccc gtcttcatt gagctgccac 2450  
tgtccattgc agaatggcc atccccagc aactctctt ctctggtgtg 2500  
gtgaggggcg agagagccat gcagtctgag cgggatgtgg gcagcaaggt 2550  
caagtatgag gtcacggttt ccaaccaagg ccagtcgctc agaaccctgg 2600  
gctctgcctt cctcaacatc atgtgcctc atgagattgc caatgggaag 2650  
tggttgctgt acccaatgca ggttgagctg gagggcgggc aggggcctgg 2700  
gcagaaaggg ctttgcctc ccaggcccaa cctctccac ctggatgtgg 2750

acagtaggga taggaggcgg cgggagctgg agccacctga gcagcaggag 2800  
cctggtgagc ggcaggagcc cagcatgtcc tgggtggccag tgtcctctgc 2850  
tgagaagaag aaaaacatca ccctggactg cgcccggggc acggccaact 2900  
gtgtggtgtt cagctgccc ctctacagct ttgaccgcgc ggctgtgctg 2950  
catgtctggg gccgtctctg gaacagcacc ttctggagg agtactcagc 3000  
tgtgaagtcc ctggaagtga ttgtccgggc caacatcaca gtgaagtctt 3050  
ccataaagaa cttgatgctc cgagatgcct ccacagtgat cccagtgatg 3100  
gtatacttgg accccatggc tgtggtggca gaaggagtgc cctggtgggt 3150  
catcctctg gctgtactgg ctgggctgct ggtgctagca ctgctggtgc 3200  
tgtcctctg gaagatggga ttctcaaac gggcgaagca ccccgaggcc 3250  
accgtgcccc agtaccatgc ggtgaagatt cctcgggaag accgacagca 3300  
gttcaaggag gagaagacgg gcaccatcct gaggaacaac tggggcagcc 3350  
cccggcggga gggcccggat gcacaccca tcctggctgc tgacgggcat 3400  
cccgagctgg gccccgatgg gcatccaggg ccaggcaccg cctaggttcc 3450  
catgtcccag cctggcctgt ggctgccctc catccttcc ccagagatgg 3500  
ctccttggga tgaagagggt agagtgggct gctggtgtcg catcaagatt 3550  
tggcaggatc ggcttctca gggcacaga cctctcccac ccacaagaac 3600  
tcctcccacc caactcccc ttagagtgtc gtgagatgag agtgggtaa 3650  
tcagggacag ggccatgggg tagggtgaga agggcagggg tgtcctgatg 3700  
caaaggtggg gagaagggat cctaaccct tcctctcca ttcacctgt 3750  
gtaacaggac cccaaggacc tgctccccg gaagtgcctt aacctagagg 3800  
gtcggggagg aggttgtgc actgactcag gctgctcctt ctctagtctc 3850  
ccctctcacc tgacctagt ttgtgcat cagtctagtg gtttcgtgtg 3900

ttcgtctatt tattaataaaa tatttgagaa caaaaaaaaa aaaaaaaaaa 3950

a 3951

<210> 437

<211> 1141

<212> PRT

<213> Homo sapiens

<400> 437

Met Ala Gly Ala Arg Ser Arg Asp Pro Trp Gly Ala Ser Gly Ile

1 5 10 15

Cys Tyr Leu Phe Gly Ser Leu Leu Val Glu Leu Leu Phe Ser Arg

20 25 30

Ala Val Ala Phe Asn Leu Asp Val Met Gly Ala Leu Arg Lys Glu

35 40 45

Gly Glu Pro Gly Ser Leu Phe Gly Phe Ser Val Ala Leu His Arg

50 55 60

Gln Leu Gln Pro Arg Pro Gln Ser Trp Leu Leu Val Gly Ala Pro

65 70 75

Gln Ala Leu Ala Leu Pro Gly Gln Gln Ala Asn Arg Thr Gly Gly

80 85 90

Leu Phe Ala Cys Pro Leu Ser Leu Glu Glu Thr Asp Cys Tyr Arg

95 100 105

Val Asp Ile Asp Gln Gly Ala Asp Met Gln Lys Glu Ser Lys Glu

110 115 120

Asn Gln Trp Leu Gly Val Ser Val Arg Ser Gln Gly Pro Gly Gly

125 130 135

Lys Ile Val Thr Cys Ala His Arg Tyr Glu Ala Arg Gln Arg Val

140 145 150

Asp Gln Ile Leu Glu Thr Arg Asp Met Ile Gly Arg Cys Phe Val

155 160 165

Leu Ser Gln Asp Leu Ala Ile Arg Asp Glu Leu Asp Gly Gly Glu

170 175 180

Trp Lys Phe Cys Glu Gly Arg Pro Gln Gly His Glu Gln Phe Gly  
185 190 195

Phe Cys Gln Gln Gly Thr Ala Ala Ala Phe Ser Pro Asp Ser His  
200 205 210

Tyr Leu Leu Phe Gly Ala Pro Gly Thr Tyr Asn Trp Lys Gly Thr  
215 220 225

Ala Arg Val Glu Leu Cys Ala Gln Gly Ser Ala Asp Leu Ala His  
230 235 240

Leu Asp Asp Gly Pro Tyr Glu Ala Gly Gly Glu Lys Glu Gln Asp  
245 250 255

Pro Arg Leu Ile Pro Val Pro Ala Asn Ser Tyr Phe Gly Phe Ser  
260 265 270

Ile Asp Ser Gly Lys Gly Leu Val Arg Ala Glu Glu Leu Ser Phe  
275 280 285

Val Ala Gly Ala Pro Arg Ala Asn His Lys Gly Ala Val Val Ile  
290 295 300

Leu Arg Lys Asp Ser Ala Ser Arg Leu Val Pro Glu Val Met Leu  
305 310 315

Ser Gly Glu Arg Leu Thr Ser Gly Phe Gly Tyr Ser Leu Ala Val  
320 325 330

Ala Asp Leu Asn Ser Asp Gly Trp Pro Asp Leu Ile Val Gly Ala  
335 340 345

Pro Tyr Phe Phe Glu Arg Gln Glu Glu Leu Gly Gly Ala Val Tyr  
350 355 360

Val Tyr Leu Asn Gln Gly Gly His Trp Ala Gly Ile Ser Pro Leu  
365 370 375

Arg Leu Cys Gly Ser Pro Asp Ser Met Phe Gly Ile Ser Leu Ala  
380 385 390

Val Leu Gly Asp Leu Asn Gln Asp Gly Phe Pro Asp Ile Ala Val  
395 400 405

Gly Ala Pro Phe Asp Gly Asp Gly Lys Val Phe Ile Tyr His Gly  
410 415 420

Ser Ser Leu Gly Val Val Ala Lys Pro Ser Gln Val Leu Glu Gly  
425 430 435

Glu Ala Val Gly Ile Lys Ser Phe Gly Tyr Ser Leu Ser Gly Ser  
440 445 450

Leu Asp Met Asp Gly Asn Gln Tyr Pro Asp Leu Leu Val Gly Ser  
455 460 465

Leu Ala Asp Thr Ala Val Leu Phe Arg Ala Arg Pro Ile Leu His  
470 475 480

Val Ser His Glu Val Ser Ile Ala Pro Arg Ser Ile Asp Leu Glu  
485 490 495

Gln Pro Asn Cys Ala Gly Gly His Ser Val Cys Val Asp Leu Arg  
500 505 510

Val Cys Phe Ser Tyr Ile Ala Val Pro Ser Ser Tyr Ser Pro Thr  
515 520 525

Val Ala Leu Asp Tyr Val Leu Asp Ala Asp Thr Asp Arg Arg Leu  
530 535 540

Arg Gly Gln Val Pro Arg Val Thr Phe Leu Ser Arg Asn Leu Glu  
545 550 555

Glu Pro Lys His Gln Ala Ser Gly Thr Val Trp Leu Lys His Gln  
560 565 570

His Asp Arg Val Cys Gly Asp Ala Met Phe Gln Leu Gln Glu Asn  
575 580 585

Val Lys Asp Lys Leu Arg Ala Ile Val Val Thr Leu Ser Tyr Ser  
590 595 600

Leu Gln Thr Pro Arg Leu Arg Arg Gln Ala Pro Gly Gln Gly Leu  
605 610 615

Pro Pro Val Ala Pro Ile Leu Asn Ala His Gln Pro Ser Thr Gln  
620 625 630

Arg Ala Glu Ile His Phe Leu Lys Gln Gly Cys Gly Glu Asp Lys  
635            640            645

Ile Cys Gln Ser Asn Leu Gln Leu Val His Ala Arg Phe Cys Thr  
650            655            660

Arg Val Ser Asp Thr Glu Phe Gln Pro Leu Pro Met Asp Val Asp  
665            670            675

Gly Thr Thr Ala Leu Phe Ala Leu Ser Gly Gln Pro Val Ile Gly  
680            685            690

Leu Glu Leu Met Val Thr Asn Leu Pro Ser Asp Pro Ala Gln Pro  
695            700            705

Gln Ala Asp Gly Asp Asp Ala His Glu Ala Gln Leu Leu Val Met  
710            715            720

Leu Pro Asp Ser Leu His Tyr Ser Gly Val Arg Ala Leu Asp Pro  
725            730            735

Ala Glu Lys Pro Leu Cys Leu Ser Asn Glu Asn Ala Ser His Val  
740            745            750

Glu Cys Glu Leu Gly Asn Pro Met Lys Arg Gly Ala Gln Val Thr  
755            760            765

Phe Tyr Leu Ile Leu Ser Thr Ser Gly Ile Ser Ile Glu Thr Thr  
770            775            780

Glu Leu Glu Val Glu Leu Leu Leu Ala Thr Ile Ser Glu Gln Glu  
785            790            795

Leu His Pro Val Ser Ala Arg Ala Arg Val Phe Ile Glu Leu Pro  
800            805            810

Leu Ser Ile Ala Gly Met Ala Ile Pro Gln Gln Leu Phe Phe Ser  
815            820            825

Gly Val Val Arg Gly Glu Arg Ala Met Gln Ser Glu Arg Asp Val  
830            835            840

Gly Ser Lys Val Lys Tyr Glu Val Thr Val Ser Asn Gln Gly Gln  
845            850            855

Ser Leu Arg Thr Leu Gly Ser Ala Phe Leu Asn Ile Met Trp Pro  
860 865 870

His Glu Ile Ala Asn Gly Lys Trp Leu Leu Tyr Pro Met Gln Val  
875 880 885

Glu Leu Glu Gly Gly Gln Gly Pro Gly Gln Lys Gly Leu Cys Ser  
890 895 900

Pro Arg Pro Asn Ile Leu His Leu Asp Val Asp Ser Arg Asp Arg  
905 910 915

Arg Arg Arg Glu Leu Glu Pro Pro Glu Gln Gln Glu Pro Gly Glu  
920 925 930

Arg Gln Glu Pro Ser Met Ser Trp Trp Pro Val Ser Ser Ala Glu  
935 940 945

Lys Lys Lys Asn Ile Thr Leu Asp Cys Ala Arg Gly Thr Ala Asn  
950 955 960

Cys Val Val Phe Ser Cys Pro Leu Tyr Ser Phe Asp Arg Ala Ala  
965 970 975

Val Leu His Val Trp Gly Arg Leu Trp Asn Ser Thr Phe Leu Glu  
980 985 990

Glu Tyr Ser Ala Val Lys Ser Leu Glu Val Ile Val Arg Ala Asn  
995 1000 1005

Ile Thr Val Lys Ser Ser Ile Lys Asn Leu Met Leu Arg Asp Ala  
1010 1015 1020

Ser Thr Val Ile Pro Val Met Val Tyr Leu Asp Pro Met Ala Val  
1025 1030 1035

Val Ala Glu Gly Val Pro Trp Trp Val Ile Leu Leu Ala Val Leu  
1040 1045 1050

Ala Gly Leu Leu Val Leu Ala Leu Leu Val Leu Leu Leu Trp Lys  
1055 1060 1065

Met Gly Phe Phe Lys Arg Ala Lys His Pro Glu Ala Thr Val Pro  
1070 1075 1080

Gln Tyr His Ala Val Lys Ile Pro Arg Glu Asp Arg Gln Gln Phe  
1085 1090 1095

Lys Glu Glu Lys Thr Gly Thr Ile Leu Arg Asn Asn Trp Gly Ser  
1100 1105 1110

Pro Arg Arg Glu Gly Pro Asp Ala His Pro Ile Leu Ala Ala Asp  
1115 1120 1125

Gly His Pro Glu Leu Gly Pro Asp Gly His Pro Gly Pro Gly Thr  
1130 1135 1140

Ala

<210> 438

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 438

ggctgacacc gcagtgctct tcag 24

<210> 439

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 439

gctgctgggg actgcaatgt agct 24

<210> 440

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe



<400> 440

catcctccat gtctcccatg aggtctctat tgctccacga agcatc 46

<210> 441

<211> 1964

<212> DNA

<213> Homo sapiens

<400> 441

cgcgccgggc gcagggagct gaggggacgg ctcgagacgg cggcgcgtgc 50

agcagctcca gaaagcagcg agttggcaga gcagggctgc attccagca 100

ggagctgcga gcacagtgtc ggctcacaac aagatgtca aggtgtcagc 150

cgtactgtgt gtgtgtcag ccgcttggtg cagtcagtct ctcgagctg 200

ccgcggcggt ggctgcagcc gggggcggt cggacggcgg taattttctg 250

gatgataaac aatggctcac cacaatctct cagtatgaca aggaagtcgg 300

acagtggaac aaattccgag acgaagtaga ggatgattat ttccgcactt 350

ggagtccagg aaaacccttc gatcaggctt tagatccagc taaggatcca 400

tgcttaaaga tgaatgtag tcgccataaa gtagcattg ctcaagattc 450

tcagactgca gtctgcatta gtcaccggag gcttacacac aggatgaaag 500

aagcaggagt agaccatagg cagtgaggagg gtccatatt atccacctgc 550

aagcagtgcc cagtggtcta tcccagccct gtttgggtt cagatgtca 600

tacctactct ttcagtgc aactagaata tcaggcatgt gtcttaggaa 650

aacagatctc agtcaaatgt gaaggacatt gccatgtcc ttcagataag 700

cccaccagta caagcagaaa tgtaagaga gcatgcagtg acctggagtt 750

caggaagtg gcaaacagat tgcgggactg gttcaaggcc ctcatgaaa 800

gtggaagtca aaacaagaag acaaaaacat tgctgaggcc tgagagaagc 850

agattcgata ccagcatctt gccaatgtc aaggactcac ttggctggat 900

gtttaacaga cttgatacaa actatgacct gctattggac cagtcagagc 950  
tcagaagcat ttaccttgat aagaatgaac agtgtaccaa ggcattcttc 1000  
aattcttgatg acacatacaa ggacagtta atatctaata atgagtggg 1050  
ctactgcttc cagagacagc aagaccacc ttgccagact gagctcagca 1100  
atattcagaa gcggcaaggg gtaaagaagc tcctaggaca gtatatcccc 1150  
ctgtgtgatg aagatggta ctacaagcca acacaatgac atggcagtg 1200  
tggacagtgc tgggtgttg acagatatgg aatgaagtc atgggatcca 1250  
gaataaatgg tgttcagat tgtgctatag attttgagat ctccggagat 1300  
tttgctagtg gcgatttca tgaatggact gatgatgagg atgatgaaga 1350  
cgatattatg aatgatgaag atgaaattga agatgatgat gaagatgaag 1400  
gggatgatga tgatgggtg gatgaccatg atgtatacat ttgattgatg 1450  
acagttgaaa tcaataaatt ctacatttct aatatttaca aaaatgatag 1500  
cctattttaa attatcttct tcccataa caaatgatt ctaaacctca 1550  
catatattt gtataattat ttgaaaatt gcagctaaag ttatagaact 1600  
ttatgttaa ataagaatca tttgcttga gttttatat tccttacaca 1650  
aaaagaaat acatatgcag tctagtcaga caaataaag tttgaagtg 1700  
ctactataat aaattttca cgagaacaaa cttgtaaat cttccataag 1750  
caaatgaca gctagtgctt gggatcgtac atgttaatt tttgaaagat 1800  
aattctaagt gaaatttaa ataaataat ttttaatgac ctgggtctta 1850  
aggatttagg aaaaatgac atgctttaat tgcattcca aagtagcatc 1900  
ttgctagacc tagatgagtc aggataacag agagatacca catgactcca 1950  
aaaaaaaaaaaa 1964

<211> 436  
<212> PRT  
<213> Homo sapiens

<400> 442  
Met Leu Lys Val Ser Ala Val Leu Cys Val Cys Ala Ala Ala Trp  
1 5 10 15

Cys Ser Gln Ser Leu Ala Ala Ala Ala Val Ala Ala Ala Gly  
20 25 30

Gly Arg Ser Asp Gly Gly Asn Phe Leu Asp Asp Lys Gln Trp Leu  
35 40 45

Thr Thr Ile Ser Gln Tyr Asp Lys Glu Val Gly Gln Trp Asn Lys  
50 55 60

Phe Arg Asp Glu Val Glu Asp Asp Tyr Phe Arg Thr Trp Ser Pro  
65 70 75

Gly Lys Pro Phe Asp Gln Ala Leu Asp Pro Ala Lys Asp Pro Cys  
80 85 90

Leu Lys Met Lys Cys Ser Arg His Lys Val Cys Ile Ala Gln Asp  
95 100 105

Ser Gln Thr Ala Val Cys Ile Ser His Arg Arg Leu Thr His Arg  
110 115 120

Met Lys Glu Ala Gly Val Asp His Arg Gln Trp Arg Gly Pro Ile  
125 130 135

Leu Ser Thr Cys Lys Gln Cys Pro Val Val Tyr Pro Ser Pro Val  
140 145 150

Cys Gly Ser Asp Gly His Thr Tyr Ser Phe Gln Cys Lys Leu Glu  
155 160 165

Tyr Gln Ala Cys Val Leu Gly Lys Gln Ile Ser Val Lys Cys Glu  
170 175 180

Gly His Cys Pro Cys Pro Ser Asp Lys Pro Thr Ser Thr Ser Arg  
185 190 195

Asn Val Lys Arg Ala Cys Ser Asp Leu Glu Phe Arg Glu Val Ala

200            205            210

Asn Arg Leu Arg Asp Trp Phe Lys Ala Leu His Glu Ser Gly Ser  
215            220            225

Gln Asn Lys Lys Thr Lys Thr Leu Leu Arg Pro Glu Arg Ser Arg  
230            235            240

Phe Asp Thr Ser Ile Leu Pro Ile Cys Lys Asp Ser Leu Gly Trp  
245            250            255

Met Phe Asn Arg Leu Asp Thr Asn Tyr Asp Leu Leu Leu Asp Gln  
260            265            270

Ser Glu Leu Arg Ser Ile Tyr Leu Asp Lys Asn Glu Gln Cys Thr  
275            280            285

Lys Ala Phe Phe Asn Ser Cys Asp Thr Tyr Lys Asp Ser Leu Ile  
290            295            300

Ser Asn Asn Glu Trp Cys Tyr Cys Phe Gln Arg Gln Gln Asp Pro  
305            310            315

Pro Cys Gln Thr Glu Leu Ser Asn Ile Gln Lys Arg Gln Gly Val  
320            325            330

Lys Lys Leu Leu Gly Gln Tyr Ile Pro Leu Cys Asp Glu Asp Gly  
335            340            345

Tyr Tyr Lys Pro Thr Gln Cys His Gly Ser Val Gly Gln Cys Trp  
350            355            360

Cys Val Asp Arg Tyr Gly Asn Glu Val Met Gly Ser Arg Ile Asn  
365            370            375

Gly Val Ala Asp Cys Ala Ile Asp Phe Glu Ile Ser Gly Asp Phe  
380            385            390

Ala Ser Gly Asp Phe His Glu Trp Thr Asp Asp Glu Asp Asp Glu  
395            400            405

Asp Asp Ile Met Asn Asp Glu Asp Glu Ile Glu Asp Asp Asp Glu  
410            415            420

Asp Glu Gly Asp Asp Asp Asp Gly Gly Asp Asp His Asp Val Tyr

425

430

435

Ile

<210> 443

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 443

cagcaatatt cagaagcggc aaggg 25

<210> 444

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 444

catcatggtc atcaccacca tcatcatc 28

<210> 445

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 445

ggttactaca agccaacaca atgtcatggc agtgttgac agtgctgg 48

<210> 446

<211> 3617

<212> DNA

<213> Homo sapiens

<400> 446

cagactccag atttcctgt caaccacgag gaggccagag aggaaacgcg 50

gagcggagac aacagtacct gacgcctctt tcagcccggg atgccccag 100  
cagggatggg cgacaagatc tggctgccct tccccgtgct ccttctggcc 150  
gctctgcctc cggctgctgt gcctggggcg gccggcttca caccttcct 200  
cgatagcgac ttcaccttta ccttcccgc cggccagaag gagtgttct 250  
accagccat gccctgaag gcctcgctgg agatcgagta ccaagttta 300  
gatggagcag gattagatat tgattccat ctgcctctc cagaaggcaa 350  
aaccttagtt tttgaacaaa gaaaatcaga tggagttcac actgtagaga 400  
ctgaagtgg tgattacatg ttctgcttg acaatacatt cagcaccatt 450  
tctgagaagg tgatttctt tgaattaatc ctggataata tgggagaaca 500  
ggcacaagaa caagaagatt ggaagaaata tattactggc acagatatat 550  
tggatatgaa actggaagac atcctggaat ccatcaacag catcaagtcc 600  
agactaagca aaagtgggca catacaaatt ctgcttagag cattgaage 650  
tcgtgatcga aacatacaag aaagcaactt tgatagagtc aatttctgt 700  
ctatggttaa tttagtggc atggtggtg tgcagccat tcaagttat 750  
atgctgaaga gtctgttga agataagagg aaaagtagaa cttaaaactc 800  
caaactagag tacgtaacat tgaaaaatga ggcataaaaa tgcaataaac 850  
tgttacagtc aagaccatta atggtcttct ccaaaatatt ttgagatata 900  
aaagtaggaa acaggtataa tttaatgtg aaaattaagt cttcacttc 950  
tgtcaagta atcctgctga tccagttgta ctaagtgtg taacaggaat 1000  
atttgcaga atataggtt aactgaatga agccatatta ataactgcat 1050  
tttctaact ttgaaaaatt ttgcaaatgt cttaggtgat ttaaataaat 1100  
gagtattggg cctaattgca acaccagtct gttttaaca ggttctatta 1150  
cccagaactt tttgtaaat gcggcagtta caaattaact gtggaagttt 1200

tcagtttaa gttataaac acctgagaat tacctaatga tggattgaat 1250  
aaatcttag actacaaaag cccaactttt ctctatttac atatgcatct 1300  
ctcctataat gtaaatagaa taatagcttt gaaatacaat taggttttg 1350  
agattttat aaccaatac atttcagtgt aacatattag cagaaagcat 1400  
tagtcttgt actttgctta cattcccaa agctgacatt ttcacgattc 1450  
ttaaaaacac aaagttacac ttactaaaat taggacatgt tttctcttg 1500  
aatgaagaa tatagttaa aagcttcctc ctccataggg acacatttc 1550  
tctaaccctt aactaaagtg taggatttta aaattaaatg tgaggtaaaa 1600  
taagttatt ttaatagta tctgtcaagt taatatctgt caacagttaa 1650  
taatcatgtt atgtaattt taacatgatt gctgactgg ataattcatt 1700  
attaccagca gttatgaagg aaatattgct aaaatgatct gggcctacca 1750  
taaataaata tctcctttc tgagctctaa gaattatcag aaaacaggaa 1800  
agaattaga aaaacttgag aaaacctaata ccaaataaa attcacttaa 1850  
gtagaactat aaataaatat ctagaatctg actggctcat catgacatcc 1900  
tactcataac ataaatcaaa ggagatgatt aattccagt tagctggaag 1950  
aaactttggc tgtaggtttt tattttctac aagaattctg gtttgaatta 2000  
ttttgtaag caggtacatt ttataaatg taagccctac tgtaaggttt 2050  
agcactgggt gtacatattt attaaaaatt ttattataa caactttat 2100  
taaatggcc ttctgaaca ctttattat tgatgtgaa gtaaggatta 2150  
gaaacataga ctccaagtt ttaaacacct aatgtgaat aacctatata 2200  
tacaacaaag ttctgcat ctagctttt gaagtctat ggggtcttac 2250  
tcaagtacta gtaattaac ttcatcatga atgaactata attttaagt 2300  
tatgccatt tataacgttg ttatgacta cattgtgagt tagaaacaaa 2350

cttaaaattt ggggtataga acccctcaac aggttagtaa tgctggaatt 2400  
cttgatgagc aataatgata accagagagt gatttcattt acactcatag 2450  
tagtataaaa agagatacat ttccctctta ggcccctggg agaagagcag 2500  
cttagatttc cctactggca aggtttttaa aaatgagga aatgccgtat 2550  
atgatcaatt accttaattg gccaaagaaa tgcttcaggt gtctaggggt 2600  
atcctctgca acactgcag aacaaagtc aataagatcc tgcctatga 2650  
ataccctcc ctttgcgct gttaaattg caatgagaag caaattaca 2700  
gtaccataac taataaagca ggttacagat ataaactact gcacttttc 2750  
tataaaactg tgattaagaa ttctacctct cctgtatggc tgttactgta 2800  
ctgtactctc tgactcctta cctaacaatg aatttggtac ataacttct 2850  
acatgatga tttgtccac tgactctaaa cctatgattc agtaacttct 2900  
taccatataa aaacgataat tgctttattt ggaaaagaat ttaggaatac 2950  
taaggacaat tattttata gacaaagtaa aaagacagat atttaagagg 3000  
cataaccaa aaagcaaac ttgtaaacag agtaaaaatc ttaaatatt 3050  
ctaaagacat actgtttatc tgcttcatat gctttttta atttactat 3100  
tccatttcta aattaaagt atgctaaatt gagtaagctg tttatcactt 3150  
aacagctcat tttgtcttt tcaatataca aatttataaa atactacaat 3200  
atttaactaa ggcccaaccg atttcataa tgtagcagtt accgtgttca 3250  
cctcacacta aggcctagag tttgctctga tatgcattg gatgattaat 3300  
gttatgctgt tctttcatgt gaatgtcaag acatggaggg tgtttgtaat 3350  
tttatgtaa aattaatcct tcttacacat aatggtgtct taaaattgac 3400  
aaaaaatgag cacttacaat tgtatgtctc ctcaaatgaa gattctttat 3450  
gtgaaatttt aaaagacatt gattccgcat gtaaggattt ttcactgaa 3500



gtacaataat gcacaatcag tgttgctcaa actgctttat acttataaac 3550

agccatctta aataagcaac gtattgtgag tactgatatg tatataataa 3600

aaattatcaa aggaaaa 3617

<210> 447

<211> 229

<212> PRT

<213> Homo sapiens

<400> 447

Met Gly Asp Lys Ile Trp Leu Pro Phe Pro Val Leu Leu Leu Ala  
1 5 10 15

Ala Leu Pro Pro Val Leu Leu Pro Gly Ala Ala Gly Phe Thr Pro  
20 25 30

Ser Leu Asp Ser Asp Phe Thr Phe Thr Leu Pro Ala Gly Gln Lys  
35 40 45

Glu Cys Phe Tyr Gln Pro Met Pro Leu Lys Ala Ser Leu Glu Ile  
50 55 60

Glu Tyr Gln Val Leu Asp Gly Ala Gly Leu Asp Ile Asp Phe His  
65 70 75

Leu Ala Ser Pro Glu Gly Lys Thr Leu Val Phe Glu Gln Arg Lys  
80 85 90

Ser Asp Gly Val His Thr Val Glu Thr Glu Val Gly Asp Tyr Met  
95 100 105

Phe Cys Phe Asp Asn Thr Phe Ser Thr Ile Ser Glu Lys Val Ile  
110 115 120

Phe Phe Glu Leu Ile Leu Asp Asn Met Gly Glu Gln Ala Gln Glu  
125 130 135

Gln Glu Asp Trp Lys Lys Tyr Ile Thr Gly Thr Asp Ile Leu Asp  
140 145 150

Met Lys Leu Glu Asp Ile Leu Glu Ser Ile Asn Ser Ile Lys Ser  
155 160 165

Arg Leu Ser Lys Ser Gly His Ile Gln Ile Leu Leu Arg Ala Phe  
170 175 180

Glu Ala Arg Asp Arg Asn Ile Gln Glu Ser Asn Phe Asp Arg Val  
185 190 195

Asn Phe Trp Ser Met Val Asn Leu Val Val Met Val Val Val Ser  
200 205 210

Ala Ile Gln Val Tyr Met Leu Lys Ser Leu Phe Glu Asp Lys Arg  
215 220 225

Lys Ser Arg Thr

<210> 448

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 448

cccagcaggg ctgggcgaca aga 23

<210> 449

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 449

gtcttcagt ttcatatcca ata 23

<210> 450

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 450  
ccagaaggag cacggggaag ggcagccaga tctgtcgcc cat 43

<210> 451  
<211> 859  
<212> DNA  
<213> Homo sapiens

<400> 451  
ccatcctga gatctttta taaaaaaccc agtctttgct gaccagaaa 50  
agcataccag attcaccag agatcgcag aactatgct gcctccatg 100  
gcctgcca gtgtgctg gatgctgt tctgcctca ttctctgtg 150  
tcaggtcaa ggtgaagaaa ccagaagga actgcctct ccacgatca 200  
gctgcccac aggtccaag gcctatgct cccctgcta tgcctgttt 250  
ttgcaccaa aatcctgat ggatgcagat ctggctgcc agaagcggcc 300  
ctctgaaaa ctggtgctg tgctcagtgg ggctgaggga tcctcgtgt 350  
cctccctggt gaggagcatt agtaacagct actcatacat ctggattggg 400  
ctccatgacc ccacacagg ctctgagcct gatggagatg gatgggagtg 450  
gagtagcact gatgtgatga attacttgc atgggagaaa aatccctcca 500  
ccatctaaa ccctggccac tggggagcc tgcaagaag cacaggattt 550  
ctgaagtga aagattataa ctgtgatgca aagttaccct atgtctgca 600  
gttcaaggac tagggcaggt gggaagtcag cagcctcagc ttggcgtgca 650  
gctcatcatg gacatgagac cagtgtgaag actcacctg gaagagaata 700  
tttcccaa actgcctac ctgactacct tgcatgac ctccttctt 750  
ttccttttc ttcacctca ttcaggctt ttctctgt tccatgtct 800  
gagatctcag agaataataa taaaatgtt actttataa aaaaaaaaaa 850  
aaaaaaaaa 859

<210> 452  
<211> 175  
<212> PRT  
<213> Homo sapiens

<400> 452  
Met Leu Pro Pro Met Ala Leu Pro Ser Val Ser Trp Met Leu Leu  
1 5 10 15

Ser Cys Leu Ile Leu Leu Cys Gln Val Gln Gly Glu Glu Thr Gln  
20 25 30

Lys Glu Leu Pro Ser Pro Arg Ile Ser Cys Pro Lys Gly Ser Lys  
35 40 45

Ala Tyr Gly Ser Pro Cys Tyr Ala Leu Phe Leu Ser Pro Lys Ser  
50 55 60

Trp Met Asp Ala Asp Leu Ala Cys Gln Lys Arg Pro Ser Gly Lys  
65 70 75

Leu Val Ser Val Leu Ser Gly Ala Glu Gly Ser Phe Val Ser Ser  
80 85 90

Leu Val Arg Ser Ile Ser Asn Ser Tyr Ser Tyr Ile Trp Ile Gly  
95 100 105

Leu His Asp Pro Thr Gln Gly Ser Glu Pro Asp Gly Asp Gly Trp  
110 115 120

Glu Trp Ser Ser Thr Asp Val Met Asn Tyr Phe Ala Trp Glu Lys  
125 130 135

Asn Pro Ser Thr Ile Leu Asn Pro Gly His Cys Gly Ser Leu Ser  
140 145 150

Arg Ser Thr Gly Phe Leu Lys Trp Lys Asp Tyr Asn Cys Asp Ala  
155 160 165

Lys Leu Pro Tyr Val Cys Lys Phe Lys Asp  
170 175

<210> 453  
<211> 550  
<212> DNA

<213> Homo sapiens

<400> 453

ccagtctgtc gccacctcac ttggtgtctg ctgtccccgc caggcaagcc 50

tggggtgaga gcacagagga gtgggccggg accatgcggg ggacgcggt 100

ggcgctcctg gcgctggtgc tggtgcctg cggagagctg gcgccggccc 150

tgcgctgcta cgtctgtccg gagcccacag gagtgtcgga ctgtgcacc 200

atgccacct gcaccaccaa cgaaacatg tgcaagacca cactctactc 250

ccgggagata gtgtaccctt tccaggggga ctccacggtg accaagtctt 300

gtgccagcaa gtgtaagccc tcggatgtgg atggcatcgg ccagaccctg 350

cccgctcctt gctgcaatac tgagctgtgc aatgtagacg gggcgccccg 400

tctgaacagc ctccactgcg gggccctcac gctcctccca ctcttgagcc 450

tccgactgta gagtccccgc ccaccccat ggcctatgc ggcccagccc 500

cgaatgcctt gaagaagtgc ccctgcacc aggaaaaaaaa aaaaaaaaaa 550

<210> 454

<211> 125

<212> PRT

<213> Homo sapiens

<400> 454

Met Arg Gly Thr Arg Leu Ala Leu Leu Ala Leu Val Leu Ala Ala

1 5 10 15

Cys Gly Glu Leu Ala Pro Ala Leu Arg Cys Tyr Val Cys Pro Glu

20 25 30

Pro Thr Gly Val Ser Asp Cys Val Thr Ile Ala Thr Cys Thr Thr

35 40 45

Asn Glu Thr Met Cys Lys Thr Thr Leu Tyr Ser Arg Glu Ile Val

50 55 60

Tyr Pro Phe Gln Gly Asp Ser Thr Val Thr Lys Ser Cys Ala Ser

65 70 75

Lys Cys Lys Pro Ser Asp Val Asp Gly Ile Gly Gln Thr Leu Pro  
80 85 90

Val Ser Cys Cys Asn Thr Glu Leu Cys Asn Val Asp Gly Ala Pro  
95 100 105

Ala Leu Asn Ser Leu His Cys Gly Ala Leu Thr Leu Leu Pro Leu  
110 115 120

Leu Ser Leu Arg Leu  
125

<210> 455

<211> 1518

<212> DNA

<213> Homo sapiens

<400> 455

ctgcagtcag gactctggga ccgcaggggg ctcccgacc ctgactctgc 50

agccgaaccg gcacggtttc gtggggacc accgcttcaa agtgacggtc 100

attttcttt tctttctccc tcttgatcc ttctgagatg atggctctgg 150

gcgagcggg agctaccgg gtctttgtcg cgatggtagc ggcggctctc 200

ggcggcccacc ctctgtggg agtgagcgc accctgaact cggttctcaa 250

ttccaacgt atcaagaacc tgccccacc gctgggcggc gctgcggggc 300

accaggtc tgacgtcag gccgcgccg gaatcctgta cccgggcggg 350

aataagtacc agaccattga caactaccag ccgtaccgt gcgcagagga 400

cgaggagtgc ggcactgat agtactgcg tagtcccacc cgcggagggg 450

acgcaggcgt gcaaatctgt ctgcctgca ggaagcggc aaaacgctgc 500

atgcgtcacg ctatgtctg ccccggaat tactgcaaaa atggaatatg 550

tgtgtttct gatcaaaatc attccgagg agaaattgag gaaaccatca 600

ctgaaagctt tggtaatgat catagcacct tggatgggta ttccagaaga 650

accacctgt ctcaaaaat gtatcacacc aaaggacaag aagttctgt 700

ttgtctccgg tcacagact ggcctcagg attgtgtgt gctagacact 750  
tctggccaa gatctgtaa cctgtcctga aagaaggtca agtgtgtacc 800  
aagcatagga gaaaaggctc tcattgacta gaaatattcc agcgttgta 850  
ctgtggagaa ggtctgtctt gccggataca gaaagatcac catcaagcca 900  
gtaattcttc taggcttcac acttgcaga gacactaac cagctatcca 950  
aatgcagtga actccttta tataatagat gctatgaaaa cctttatga 1000  
ccttcatcaa ctcaactcta aggatataca agttctgtgg ttcagttaa 1050  
gcattccaat aacaccttc aaaaacctgg agtgaagag cttgtttct 1100  
ttatggaact ccctgtgat tgcagtaaact tactgtattg taaattctca 1150  
gtgtggcact tacctgtaa tgcaatgaaa ctttaatta ttttctaaa 1200  
ggctgtcac tgcctatctt tcctctgtt atgtaaatt ttgtacacat 1250  
tgattgttat ctgactgac aaatattcta tattgaactg aagtaaatca 1300  
ttcagctta tagttcttaa aagcataacc ctttacccca ttaattcta 1350  
gagtctagaa cgcaaggatc tcttggaatg acaaatgata ggtacctaaa 1400  
atgtaacatg aaaatactag cttatttct gaaatgtact atctaatgc 1450  
ttaaattata ttcccttta ggctgtgata gttttgaaa taaaatttaa 1500  
catttaaaaa aaaaaaaaa 1518

<210> 456  
<211> 266  
<212> PRT  
<213> Homo sapiens

<400> 456  
Met Met Ala Leu Gly Ala Ala Gly Ala Thr Arg Val Phe Val Ala  
1 5 10 15  
Met Val Ala Ala Ala Leu Gly Gly His Pro Leu Leu Gly Val Ser  
20 25 30

Ala Thr Leu Asn Ser Val Leu Asn Ser Asn Ala Ile Lys Asn Leu  
35 40 45

Pro Pro Pro Leu Gly Gly Ala Ala Gly His Pro Gly Ser Ala Val  
50 55 60

Ser Ala Ala Pro Gly Ile Leu Tyr Pro Gly Gly Asn Lys Tyr Gln  
65 70 75

Thr Ile Asp Asn Tyr Gln Pro Tyr Pro Cys Ala Glu Asp Glu Glu  
80 85 90

Cys Gly Thr Asp Glu Tyr Cys Ala Ser Pro Thr Arg Gly Gly Asp  
95 100 105

Ala Gly Val Gln Ile Cys Leu Ala Cys Arg Lys Arg Arg Lys Arg  
110 115 120

Cys Met Arg His Ala Met Cys Cys Pro Gly Asn Tyr Cys Lys Asn  
125 130 135

Gly Ile Cys Val Ser Ser Asp Gln Asn His Phe Arg Gly Glu Ile  
140 145 150

Glu Glu Thr Ile Thr Glu Ser Phe Gly Asn Asp His Ser Thr Leu  
155 160 165

Asp Gly Tyr Ser Arg Arg Thr Thr Leu Ser Ser Lys Met Tyr His  
170 175 180

Thr Lys Gly Gln Glu Gly Ser Val Cys Leu Arg Ser Ser Asp Cys  
185 190 195

Ala Ser Gly Leu Cys Cys Ala Arg His Phe Trp Ser Lys Ile Cys  
200 205 210

Lys Pro Val Leu Lys Glu Gly Gln Val Cys Thr Lys His Arg Arg  
215 220 225

Lys Gly Ser His Gly Leu Glu Ile Phe Gln Arg Cys Tyr Cys Gly  
230 235 240

Glu Gly Leu Ser Cys Arg Ile Gln Lys Asp His His Gln Ala Ser  
245 250 255



Asn Ser Ser Arg Leu His Thr Cys Gln Arg His  
260 265

<210> 457

<211> 638

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 30, 123, 133, 139, 180, 214, 259, 282, 308, 452, 467, 471, 473,  
509, 556

<223> unknown base

<400> 457

tgtgtttccc tgcagtcaga atttgggacn gcaggggttc ccggacctga 50

ttttgcagcg gaacgggaag gttttgtggg acccaggttg aatgacggt 100

cattttttt tctttctct tcnggagtcc ttntgagang atggttttgg 150

gcgcagcggg agctaaccg gtttttgn gcgatgtag cggcggttt 200

cggcggccac ctntgctgg gagtgagcg caccttgaat cggtttcaa 250

ttccaacgnt atcaagaacc tgccccacc gntgggcggc gctgcggggc 300

accaggntt tgcagtcagc gccgcgccgg gaatcctgta cccgggcggg 350

aataagtacc agaccattga caattaccag ccgtaccgt gcgcagagga 400

cgaggagtgc ggcactgatg agtactgcbc tagtcccacc cgcggagggg 450

angcggcgt gcaaatntgt ntngcctgca ggaagcgccg aaaacgctgc 500

atgcgtcang ctatgtgctg ccccggaat tactgcaaaa atggaatatg 550

tgtgtnttct gatcaaaatc atttccgagg agaaattgag gaaaccatca 600

ctgaaagctt tgtaatgat catagcacct tggatggg 638

<210> 458

<211> 4040

<212> DNA

<213> Homo sapiens

<400> 458

gaggaaccta ccggtaccgg ccgcgcgctg gtagtcgccg gtgtggctgc 50  
acctcaccaa tcccgtgcmc cgcggctggg ccgtcggaga gtgcgtgtgc 100  
ttctctcctg cacgcggtgc ttgggctcgg ccaggcgggg tccgccgcca 150  
gggtttgagg atgggggagt agctacagga agcgaccccc cgatggcaag 200  
gtatattttt gtggaatgaa aaggaagtat tagaaatgag ctgaagacca 250  
ttcacagatt aatattttt gggacagatt tgtgatgctt gattcacctt 300  
tgaagtaatg tagacagaag ttctcaaatt tgcatattac atcaactgga 350  
accagcagtg aatcttaatg ttcaactaaa tcagaacttg cataagaaag 400  
agaatgggag tctggttaa taaagatgac tatacagag acttgaaaag 450  
gatcattctc tgttttctga tagtgatat ggccattta gtgggcacag 500  
atcaggattt ttacagtta cttggagtgt ccaaaactgc aagcagtaga 550  
gaaataagac aagctttcaa gaaattggca ttgaagttac atcctgataa 600  
aaacccgaat aacccaatg cacatggcga tttttaaaa ataatagag 650  
catatgaagt actcaaagat gaagatctac ggaaaaagta tgacaaatat 700  
ggagaaaagg gacttgagga taatcaaggt ggccagtatg aaagctggaa 750  
ctattatcgt tatgatttg gtattatga tgatgatcct gaaatcataa 800  
cattggaaag aagagaattt gatgctgctg ttaattctgg agaactgtgg 850  
tttgtaaatt ttactcccc aggctgttca cactgccatg atttagctcc 900  
cacatggaga gactttgcta aagaagtgga tgggttactt cgaattggag 950  
ctgttaactg tggatgatg agaatgcttt gccgaatgaa aggagtcaac 1000  
agctatcca gtctcttcat tttcggctt ggaatggccc cagtgaaata 1050  
tcatggagac agatcaaagg agagtttagt gagttttgca atgcagcatg 1100

ttagaagtac agtgacagaa cttggacag gaaatthgt caactcata 1150  
caaactgctt ttgctgctgg tattggctgg ctgatcactt tttgtcaaa 1200  
aggaggagat tgtttgactt cacagacacg actcaggctt agtggcatgt 1250  
tgtttctcaa ctattggat gctaaagaaa tatattgga agtaatacat 1300  
aatctccag atthtgaact actttcggca aacacactag aggatcgtt 1350  
ggctcatcat cgggtgctgt tathtttca tttggaaaa aatgaaaatt 1400  
caaatgatcc tgagctgaaa aaactaaaa ctctacttaa aatgatcat 1450  
attcaagttg gcaggttga ctgttctct gcaccagaca tctgtagtaa 1500  
tctgtatgtt tttcagccgt ctctagcagt atthaaagga caaggaacca 1550  
aagaatatga aattcatcat gaaagaaga ttctatatga tatactgcc 1600  
ttgccaaag aaagtgtgaa ttctcatgtt accacgcttg gacctcaaaa 1650  
tttctgcc aatgacaaag aacctaggct tgttgattc tttgcccc 1700  
ggtgtccacc atgtcagct ttactaccag agttacgaag agcatcaaat 1750  
cttcttatg gtcagcttaa gtttggtaca ctgattgta cagttcatga 1800  
gggactctgt aacatgtata acattcagc ttatccaaca acagtggat 1850  
tcaaccagtc caacattcat gagtatgaag gacatcactc tgctgaacaa 1900  
atcttgagat tcatagagga tcttatgaat cttcagtg tctccctac 1950  
accaccacc tcaacgaac tagttacaca aagaaaacac aacgaagtct 2000  
ggatggtga tttctattct ccgtggtgc atccttgcca agtcttaatg 2050  
ccagaatgga aaagaatggc ccggacatta actggactga tcaactggg 2100  
cagtatagat tgccaacagt atcattctt ttgtgccag gaaaacttc 2150  
aaagataccc tgagataaga tttttcccc caaatcaaa taaagcttat 2200  
cagtatcaca gttacaatgg ttggaatagg gatgcttatt ccctgagaat 2250

ctggggtcta ggatttttac ctcaagtatc cacagatcta acacctcaga 2300  
ctttcagtga aaaagttcta caagggaaaa atcattgggt gattgatttc 2350  
tatgctcctt ggtgtggacc ttgccagaat ttgctccag aatttgagct 2400  
ctggctagg atgattaaag gaaaagtga agctggaaaa gtagactgtc 2450  
aggcttatgc tcagacatgc cagaaagctg ggatcagggc ctatccaact 2500  
gtaaagttt atttctacga aagagcaaag agaaatttc aagaagagca 2550  
gataaatacc agagatgcaa aagcaatcgc tgccttaata agtgaaaaat 2600  
tggaaactct ccgaaatcaa ggcaagagga ataaggatga actttgataa 2650  
tgttgaagat gaagaaaaag tttaaagaa attctgacag atgacatcag 2700  
aagacaccta ttagaatgt tacatttatg atgggaatga atgaacatta 2750  
tcttagactt gcagttgtac tgccagaatt atctacagca ctggtgtaa 2800  
agaagggtct gcaactttt tctgtaaagg gccggttat aaatattta 2850  
gactttgcag gctataatat atggtcaca catgagaaca agaatagagt 2900  
catcatgtat tctttgtt atgctttta caaccttta aaaatattaa 2950  
aacgattctt agctcagagc catacaaaag taggctggat tcagtccatg 3000  
gaccatagat tgctgtcccc ctgacggac ttataatgtt tcaggtggct 3050  
ggettgaaca tgagtctgct gtgctatcta cataaatgct taagttgtat 3100  
aaagtccact ttccttcac gtttttggc tgacctgaaa agaggtaact 3150  
tagttttgg tcaattgtc tcataaaaat gctatcccta accatatatt 3200  
tatattcgt tttaaaaaca cccatgatgt ggcacagtaa acaaaccctg 3250  
ttatgctgta ttattatgag gagattctc atgttttct ttccttctca 3300  
aaggttgaaa aaatgctttt aattttcac agccgagaaa cagtgcagca 3350  
gtatatgtgc acacagtaag tacacaaatt tgagcaacag taagtcaca 3400

aattctgtag ttgctgtat catccaggaa aacctgaggg aaaaaaatta 3450

tagcaattaa ctgggcattg tagagtatcc taaatatggt atcaagtatt 3500

tagagtcta tattttaaag atatatggt tcatgtattt tctgaaattg 3550

ctttcataga aattttccca ctgatagttg attttgagg catctaata 3600

ttacatatt gccttctgaa ctttgtttg acctgtatcc ttatttaca 3650

ttgggtttt ctttcatagt ttgggtttt cactcctgtc cagtctattt 3700

attattcaaa taggaaaaat tactttacag gttgttttac ttagcttat 3750

aatgatactg tagttattcc agttactagt ttactgtcag agggctgcct 3800

tttcagata aatattgaca taataactga agttatttt ataagaaaat 3850

caagtatata aatctaggaa agggatcttc tagtttctgt gttgtttaga 3900

ctcaaagaat cacaaattg tcagtaacat gtagttgttt agttataatt 3950

cagagtgtac agaatggtaa aaattccaat cagcaaaaag aggtcaatga 4000

attaaaaggc ttgcaacttt ttcaaaaaaa aaaaaaaaaa 4040

<210> 459

<211> 747

<212> PRT

<213> Homo sapiens

<400> 459

Met Gly Val Trp Leu Asn Lys Asp Asp Tyr Ile Arg Asp Leu Lys

1 5 10 15

Arg Ile Ile Leu Cys Phe Leu Ile Val Tyr Met Ala Ile Leu Val

20 25 30

Gly Thr Asp Gln Asp Phe Tyr Ser Leu Leu Gly Val Ser Lys Thr

35 40 45

Ala Ser Ser Arg Glu Ile Arg Gln Ala Phe Lys Lys Leu Ala Leu

50 55 60

Lys Leu His Pro Asp Lys Asn Pro Asn Asn Pro Asn Ala His Gly

65                    70                    75  
Asp Phe Leu Lys Ile Asn Arg Ala Tyr Glu Val Leu Lys Asp Glu  
80                    85                    90  
Asp Leu Arg Lys Lys Tyr Asp Lys Tyr Gly Glu Lys Gly Leu Glu  
95                    100                    105  
Asp Asn Gln Gly Gly Gln Tyr Glu Ser Trp Asn Tyr Tyr Arg Tyr  
110                    115                    120  
Asp Phe Gly Ile Tyr Asp Asp Asp Pro Glu Ile Ile Thr Leu Glu  
125                    130                    135  
Arg Arg Glu Phe Asp Ala Ala Val Asn Ser Gly Glu Leu Trp Phe  
140                    145                    150  
Val Asn Phe Tyr Ser Pro Gly Cys Ser His Cys His Asp Leu Ala  
155                    160                    165  
Pro Thr Trp Arg Asp Phe Ala Lys Glu Val Asp Gly Leu Leu Arg  
170                    175                    180  
Ile Gly Ala Val Asn Cys Gly Asp Asp Arg Met Leu Cys Arg Met  
185                    190                    195  
Lys Gly Val Asn Ser Tyr Pro Ser Leu Phe Ile Phe Arg Ser Gly  
200                    205                    210  
Met Ala Pro Val Lys Tyr His Gly Asp Arg Ser Lys Glu Ser Leu  
215                    220                    225  
Val Ser Phe Ala Met Gln His Val Arg Ser Thr Val Thr Glu Leu  
230                    235                    240  
Trp Thr Gly Asn Phe Val Asn Ser Ile Gln Thr Ala Phe Ala Ala  
245                    250                    255  
Gly Ile Gly Trp Leu Ile Thr Phe Cys Ser Lys Gly Gly Asp Cys  
260                    265                    270  
Leu Thr Ser Gln Thr Arg Leu Arg Leu Ser Gly Met Leu Phe Leu  
275                    280                    285  
Asn Ser Leu Asp Ala Lys Glu Ile Tyr Leu Glu Val Ile His Asn

290	295	300
Leu Pro Asp Phe Glu Leu Leu Ser Ala Asn Thr Leu Glu Asp Arg		
305	310	315
Leu Ala His His Arg Trp Leu Leu Phe Phe His Phe Gly Lys Asn		
320	325	330
Glu Asn Ser Asn Asp Pro Glu Leu Lys Lys Leu Lys Thr Leu Leu		
335	340	345
Lys Asn Asp His Ile Gln Val Gly Arg Phe Asp Cys Ser Ser Ala		
350	355	360
Pro Asp Ile Cys Ser Asn Leu Tyr Val Phe Gln Pro Ser Leu Ala		
365	370	375
Val Phe Lys Gly Gln Gly Thr Lys Glu Tyr Glu Ile His His Gly		
380	385	390
Lys Lys Ile Leu Tyr Asp Ile Leu Ala Phe Ala Lys Glu Ser Val		
395	400	405
Asn Ser His Val Thr Thr Leu Gly Pro Gln Asn Phe Pro Ala Asn		
410	415	420
Asp Lys Glu Pro Trp Leu Val Asp Phe Phe Ala Pro Trp Cys Pro		
425	430	435
Pro Cys Arg Ala Leu Leu Pro Glu Leu Arg Arg Ala Ser Asn Leu		
440	445	450
Leu Tyr Gly Gln Leu Lys Phe Gly Thr Leu Asp Cys Thr Val His		
455	460	465
Glu Gly Leu Cys Asn Met Tyr Asn Ile Gln Ala Tyr Pro Thr Thr		
470	475	480
Val Val Phe Asn Gln Ser Asn Ile His Glu Tyr Glu Gly His His		
485	490	495
Ser Ala Glu Gln Ile Leu Glu Phe Ile Glu Asp Leu Met Asn Pro		
500	505	510
Ser Val Val Ser Leu Thr Pro Thr Thr Phe Asn Glu Leu Val Thr		

515                    520                    525

Gln Arg Lys His Asn Glu Val Trp Met Val Asp Phe Tyr Ser Pro  
530                    535                    540

Trp Cys His Pro Cys Gln Val Leu Met Pro Glu Trp Lys Arg Met  
545                    550                    555

Ala Arg Thr Leu Thr Gly Leu Ile Asn Val Gly Ser Ile Asp Cys  
560                    565                    570

Gln Gln Tyr His Ser Phe Cys Ala Gln Glu Asn Val Gln Arg Tyr  
575                    580                    585

Pro Glu Ile Arg Phe Phe Pro Pro Lys Ser Asn Lys Ala Tyr Gln  
590                    595                    600

Tyr His Ser Tyr Asn Gly Trp Asn Arg Asp Ala Tyr Ser Leu Arg  
605                    610                    615

Ile Trp Gly Leu Gly Phe Leu Pro Gln Val Ser Thr Asp Leu Thr  
620                    625                    630

Pro Gln Thr Phe Ser Glu Lys Val Leu Gln Gly Lys Asn His Trp  
635                    640                    645

Val Ile Asp Phe Tyr Ala Pro Trp Cys Gly Pro Cys Gln Asn Phe  
650                    655                    660

Ala Pro Glu Phe Glu Leu Leu Ala Arg Met Ile Lys Gly Lys Val  
665                    670                    675

Lys Ala Gly Lys Val Asp Cys Gln Ala Tyr Ala Gln Thr Cys Gln  
680                    685                    690

Lys Ala Gly Ile Arg Ala Tyr Pro Thr Val Lys Phe Tyr Phe Tyr  
695                    700                    705

Glu Arg Ala Lys Arg Asn Phe Gln Glu Glu Gln Ile Asn Thr Arg  
710                    715                    720

Asp Ala Lys Ala Ile Ala Ala Leu Ile Ser Glu Lys Leu Glu Thr  
725                    730                    735

Leu Arg Asn Gln Gly Lys Arg Asn Lys Asp Glu Leu



740

745

<210> 460  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 460  
actccccagg ctgttcacac tgcc 24

<210> 461  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 461  
gatcagccag ccaataccag cagc 24

<210> 462  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 462  
gtggtgatga tagaatgctt tgccgaatga aaggagtcaa cagctatccc 50

<210> 463  
<211> 1818  
<212> DNA  
<213> Homo sapiens

<400> 463  
agacagtacc tcctccctag gactacacaa ggactgaacc agaaggaaga 50

ggacagagca aagccatgaa catcatccta gaaatccttc tgcttctgat 100

caccatcatc tactcctact tggagtcggt ggtgaagttt ttcattcctc 150  
agaggagaaa atctgtggct ggggagattg ttctcattac tggagctggg 200  
catggaatag gcaggcagac tacttatgaa ttgcaaaac gacagagcat 250  
attggttctg tgggatatta ataagcgcgg tgtggaggaa actgcagctg 300  
agtgccgaaa actaggcgtc actgcgcatg cgtatgtggt agactgcagc 350  
aacagagaag agatctatcg ctctctaaat caggtgaaga aagaagtggg 400  
tgatgtaaca atcgtggtga ataatgctgg gacagtatat ccagccgatc 450  
ttctcagcac caagatgaa gagattacca agacatttga ggtcaacatc 500  
ctaggacatt tttgatcac aaaagcactt ctccatcga tgatggagag 550  
aatcatggc cacatcgtca cagtggcttc agtgtgcggc cacgaaggga 600  
ttccttacct catccatat tgttccagca aattgccgc tgttgcttt 650  
cacagaggtc tgacatcaga acttcaggcc ttgggaaaaa ctggtatcaa 700  
aacctcatgt ctctgcccag tttttgtaa tactgggttc accaaaaatc 750  
caagcacaag attatggcct gtattggaga cagatgaagt cgtaagaagt 800  
ctgatagatg gaatacttac caataagaaa atgattttt tccatcgt 850  
tatcaatate tttctgagac tacagaagtt tcttctgaa cgcgcctcag 900  
cgattttaa tcgatgcag aatattcaat tgaagcagt ggttgccac 950  
aaaatcaaaa tgaaatgaat aaataagctc cagccagaga tgatgcatg 1000  
ataatgatag gaatagtctc gaatcaatgc tgcaaagctt tattcacat 1050  
ttttcagtc ctgataatat taaaaacatt ggttggcac tagcagcagt 1100  
caaacgaaca agattaatta cctgtcttc tgttctcaa gaatattac 1150  
gtagttttc ataggtctgt tttccttc atgcctcta aaaacttctg 1200  
tgcttacata aacatactta aaaggtttc ttaagatat tttattttc 1250

catttaaagg tggacaaaag ctacctcct aaaagtaaat acaaagagaa 1300

cttattaca cagggaaggt ttaagactgt tcaagtagca ttccaatctg 1350

tagccatgcc acagaatatc aacaagaaca cagaatgagt gcacagctaa 1400

gagatcaagt ttacagcaggc agctttatct caacctggac atattttaag 1450

attcagcatt tgaagattt ccctagcctc ttccttttc attagcccaa 1500

aacgggtcaa ctctattctg gactttatta ctgattctg tcttctgtat 1550

aactctgaag tccacaaaa gtggaccctc tatatttct cccttttat 1600

agtctataa gatacattat gaaaggtgac cgactctatt ttaaattca 1650

gaattttaag ttctagcccc atgataacct tttctttgt aatttatgct 1700

ttcatatc cttggcca gagatgttta gacaattta ggctcaaaaa 1750

ttaaagctaa cacaggaaaa ggaactgtac tggctattac ataagaaca 1800

atggacccaa gagaagaa 1818

<210> 464

<211> 300

<212> PRT

<213> Homo sapiens

<400> 464

Met Asn Ile Ile Leu Glu Ile Leu Leu Leu Ile Thr Ile Ile

1 5 10 15

Tyr Ser Tyr Leu Glu Ser Leu Val Lys Phe Phe Ile Pro Gln Arg

20 25 30

Arg Lys Ser Val Ala Gly Glu Ile Val Leu Ile Thr Gly Ala Gly

35 40 45

His Gly Ile Gly Arg Gln Thr Thr Tyr Glu Phe Ala Lys Arg Gln

50 55 60

Ser Ile Leu Val Leu Trp Asp Ile Asn Lys Arg Gly Val Glu Glu

65 70 75

Thr Ala Ala Glu Cys Arg Lys Leu Gly Val Thr Ala His Ala Tyr  
80 85 90

Val Val Asp Cys Ser Asn Arg Glu Glu Ile Tyr Arg Ser Leu Asn  
95 100 105

Gln Val Lys Lys Glu Val Gly Asp Val Thr Ile Val Val Asn Asn  
110 115 120

Ala Gly Thr Val Tyr Pro Ala Asp Leu Leu Ser Thr Lys Asp Glu  
125 130 135

Glu Ile Thr Lys Thr Phe Glu Val Asn Ile Leu Gly His Phe Trp  
140 145 150

Ile Thr Lys Ala Leu Leu Pro Ser Met Met Glu Arg Asn His Gly  
155 160 165

His Ile Val Thr Val Ala Ser Val Cys Gly His Glu Gly Ile Pro  
170 175 180

Tyr Leu Ile Pro Tyr Cys Ser Ser Lys Phe Ala Ala Val Gly Phe  
185 190 195

His Arg Gly Leu Thr Ser Glu Leu Gln Ala Leu Gly Lys Thr Gly  
200 205 210

Ile Lys Thr Ser Cys Leu Cys Pro Val Phe Val Asn Thr Gly Phe  
215 220 225

Thr Lys Asn Pro Ser Thr Arg Leu Trp Pro Val Leu Glu Thr Asp  
230 235 240

Glu Val Val Arg Ser Leu Ile Asp Gly Ile Leu Thr Asn Lys Lys  
245 250 255

Met Ile Phe Val Pro Ser Tyr Ile Asn Ile Phe Leu Arg Leu Gln  
260 265 270

Lys Phe Leu Pro Glu Arg Ala Ser Ala Ile Leu Asn Arg Met Gln  
275 280 285

Asn Ile Gln Phe Glu Ala Val Val Gly His Lys Ile Lys Met Lys  
290 295 300

<210> 465

<211> 1547

<212> DNA

<213> Homo sapiens

<400> 465

cggcggcggc tgcgggcgcg aggtgagggg cgcgaggtga ggggcgcgag 50  
gttccagca ggatgccccg gctctgcagg aagctgaagt gagaggcccc 100  
gagagggccc agcccggccg gggcaggatg accaaggccc ggctgttccg 150  
gctgtggctg gtgctggggt cgggtttcat gatcctgctg atcatcgtgt 200  
actgggacag cgcaggcgcc ggcacttct acttgacac gtccttctct 250  
aggccgcaca cggggccgcc gctgcccacg cccgggcccgg acagggacag 300  
ggagctcagc gccgactccg atgtcgacga gtttctggac aagtttctca 350  
gtgctggcgt gaagcagagc gaccttcca gaaaggagac ggagcagccg 400  
cctgcgccgg ggagcatgga ggagagcgtg agaggctacg actggtcccc 450  
gcgcgacgcc cggcgcagcc cagaccaggg ccggcagcag gcggagcgga 500  
ggagcgtgct gcggggcttc tgcgccaact ccagcctggc cttccccacc 550  
aaggagcgcg cattcgacga catccccaac tcggagctga gccacctgat 600  
cgtggacgac cggcacgggg ccatctactg ctacgtgcc aagtggtcct 650  
gcaccaactg gaagcgcgtg atgatcgtgc tgagcgggaag cctgctgcac 700  
cgcggtgctg cctaccgga cccgctgctg atcccgcgcg agcacgtgca 750  
caacgccagc gcgcacctga ccttaacaa gttctggcgc cgctacggga 800  
agctctcccg ccacctcatg aaggtcaagc tcaagaagta caccaagttc 850  
ctctctgctg gcgaccctt cgtgcgctg atctccgct tccgcagcaa 900  
gttcgagctg gagaacgagg agttctaccg caagttcgcc gtgccatgc 950  
tgcggctgta cgccaaccac accagcctgc ccgctcggc gcgcgaggcc 1000

ttccgcgctg gcctcaaggt gtcttcgcc aactcatcc agtacctgct 1050  
ggaccgcac acggagaagc tggcgccctt caacgagcac tggcggcagg 1100  
tgtaccgct ctgccaccg tgccagatcg actacgactt cgtggggaag 1150  
ctggagactc tggacgagga cgccgcgag ctgctgcagc tactccaggt 1200  
ggaccggcag ctccgcttcc ccccgagcta ccggaacagg accgccagca 1250  
gctgggagga ggactgggtc gccaagatcc cctggcctg gaggcagcag 1300  
ctgtataaac tctacgaggc cgactttggt ctcttcggct accccaagcc 1350  
cgaaaacctc ctccgagact gaaagcttc gcgttgcttt ttctcgcgtg 1400  
cctggaacct gacgcacgcg cactccagtt ttttatgac ctacgatttt 1450  
gcaatctggg ctcttggtc actccactgc ctctatccat tgagtactgt 1500  
atcgatattg tttttaaga ttaatatt tcaggtattt aatacga 1547

<210> 466  
<211> 414  
<212> PRT  
<213> Homo sapiens

<400> 466  
Met Thr Lys Ala Arg Leu Phe Arg Leu Trp Leu Val Leu Gly Ser  
1 5 10 15  
Val Phe Met Ile Leu Leu Ile Ile Val Tyr Trp Asp Ser Ala Gly  
20 25 30  
Ala Ala His Phe Tyr Leu His Thr Ser Phe Ser Arg Pro His Thr  
35 40 45  
Gly Pro Pro Leu Pro Thr Pro Gly Pro Asp Arg Asp Arg Glu Leu  
50 55 60  
Thr Ala Asp Ser Asp Val Asp Glu Phe Leu Asp Lys Phe Leu Ser  
65 70 75  
Ala Gly Val Lys Gln Ser Asp Leu Pro Arg Lys Glu Thr Glu Gln  
80 85 90

Pro Pro Ala Pro Gly Ser Met Glu Glu Ser Val Arg Gly Tyr Asp  
95 100 105

Trp Ser Pro Arg Asp Ala Arg Arg Ser Pro Asp Gln Gly Arg Gln  
110 115 120

Gln Ala Glu Arg Arg Ser Val Leu Arg Gly Phe Cys Ala Asn Ser  
125 130 135

Ser Leu Ala Phe Pro Thr Lys Glu Arg Ala Phe Asp Asp Ile Pro  
140 145 150

Asn Ser Glu Leu Ser His Leu Ile Val Asp Asp Arg His Gly Ala  
155 160 165

Ile Tyr Cys Tyr Val Pro Lys Val Ala Cys Thr Asn Trp Lys Arg  
170 175 180

Val Met Ile Val Leu Ser Gly Ser Leu Leu His Arg Gly Ala Pro  
185 190 195

Tyr Arg Asp Pro Leu Arg Ile Pro Arg Glu His Val His Asn Ala  
200 205 210

Ser Ala His Leu Thr Phe Asn Lys Phe Trp Arg Arg Tyr Gly Lys  
215 220 225

Leu Ser Arg His Leu Met Lys Val Lys Leu Lys Lys Tyr Thr Lys  
230 235 240

Phe Leu Phe Val Arg Asp Pro Phe Val Arg Leu Ile Ser Ala Phe  
245 250 255

Arg Ser Lys Phe Glu Leu Glu Asn Glu Glu Phe Tyr Arg Lys Phe  
260 265 270

Ala Val Pro Met Leu Arg Leu Tyr Ala Asn His Thr Ser Leu Pro  
275 280 285

Ala Ser Ala Arg Glu Ala Phe Arg Ala Gly Leu Lys Val Ser Phe  
290 295 300

Ala Asn Phe Ile Gln Tyr Leu Leu Asp Pro His Thr Glu Lys Leu  
305 310 315

Ala Pro Phe Asn Glu His Trp Arg Gln Val Tyr Arg Leu Cys His  
320 325 330

Pro Cys Gln Ile Asp Tyr Asp Phe Val Gly Lys Leu Glu Thr Leu  
335 340 345

Asp Glu Asp Ala Ala Gln Leu Leu Gln Leu Leu Gln Val Asp Arg  
350 355 360

Gln Leu Arg Phe Pro Pro Ser Tyr Arg Asn Arg Thr Ala Ser Ser  
365 370 375

Trp Glu Glu Asp Trp Phe Ala Lys Ile Pro Leu Ala Trp Arg Gln  
380 385 390

Gln Leu Tyr Lys Leu Tyr Glu Ala Asp Phe Val Leu Phe Gly Tyr  
395 400 405

Pro Lys Pro Glu Asn Leu Leu Arg Asp  
410

<210> 467

<211> 1071

<212> DNA

<213> Homo sapiens

<400> 467

tcgggccaga attcggcacg aggcggcacg agggcgacgg cctcacgggg 50

ctttggaggt gaaagaggcc cagagtagag agagagagag accgacgtac 100

acgggatggc tacgggaacg cgctatgccg ggaaggtggt ggtcgtgacc 150

gggggcgggc gcggcatcgg agctgggatc gtgcgcgcct tcgtgaacag 200

cggggcccga gtggttatct gcgacaagga tgagtctggg ggccggggccc 250

tggagcagga gtcctctgga gctgtcttta tcctctgtga tgtgactcag 300

gaagatgatg tgaagaccct ggtttctgag accatccgcc gatttgccg 350

cctggattgt gttgtcaaca acgtggcca ccaccaccc ccacagaggc 400

ctgaggagac ctctgccag ggattccgcc agctgctgga gctgaaccta 450



ctggggacgt acacctgac caagctgcc ctcccctacc tgcggaagag 500  
 tcaaggaat gtcacaa tctccagcct ggtgggggca atcgccagg 550  
 cccaggcagt tccctatgt gccaccaagg gggcagtaac agccatgacc 600  
 aaagctttgg ccctggatga aagtccatat ggtgtccgag tcaactgtat 650  
 ctccccagga aacatctgga ccccgctgtg ggaggagctg gcagcctaa 700  
 tgccagaccc tagggccaca atccgagagg gcatgctggc ccagccactg 750  
 ggccgcatgg gccagcccgc tgaggtcggg gctgcggcag ttttctggc 800  
 ctccgaagcc aacttctgca cgggcattga actgctctg acgggggggtg 850  
 cagagctggg gtacgggtgc aaggccagtc ggagcacccc cgtggacgcc 900  
 cccgatatcc ctctctgatt tctctcatt ctactgggg ccccttct 950  
 aggactctcc caccccaaac tccaacctgt atcagatgca gcccacaagc 1000  
 ccttagactc taagcccagt tagcaaggtg ccgggtcacc ctgcaggttc 1050  
 ccataaaaac gattgcagc c 1071

<210> 468  
 <211> 270  
 <212> PRT  
 <213> Homo sapiens

<400> 468  
 Met Ala Thr Gly Thr Arg Tyr Ala Gly Lys Val Val Val Val Thr  
 1 5 10 15  
 Gly Gly Gly Arg Gly Ile Gly Ala Gly Ile Val Arg Ala Phe Val  
 20 25 30  
 Asn Ser Gly Ala Arg Val Val Ile Cys Asp Lys Asp Glu Ser Gly  
 35 40 45  
 Gly Arg Ala Leu Glu Gln Glu Leu Pro Gly Ala Val Phe Ile Leu  
 50 55 60  
 Cys Asp Val Thr Gln Glu Asp Asp Val Lys Thr Leu Val Ser Glu

65            70            75

Thr Ile Arg Arg Phe Gly Arg Leu Asp Cys Val Val Asn Asn Ala  
80            85            90

Gly His His Pro Pro Gln Arg Pro Glu Glu Thr Ser Ala Gln  
95            100            105

Gly Phe Arg Gln Leu Leu Glu Leu Asn Leu Leu Gly Thr Tyr Thr  
110            115            120

Leu Thr Lys Leu Ala Leu Pro Tyr Leu Arg Lys Ser Gln Gly Asn  
125            130            135

Val Ile Asn Ile Ser Ser Leu Val Gly Ala Ile Gly Gln Ala Gln  
140            145            150

Ala Val Pro Tyr Val Ala Thr Lys Gly Ala Val Thr Ala Met Thr  
155            160            165

Lys Ala Leu Ala Leu Asp Glu Ser Pro Tyr Gly Val Arg Val Asn  
170            175            180

Cys Ile Ser Pro Gly Asn Ile Trp Thr Pro Leu Trp Glu Glu Leu  
185            190            195

Ala Ala Leu Met Pro Asp Pro Arg Ala Thr Ile Arg Glu Gly Met  
200            205            210

Leu Ala Gln Pro Leu Gly Arg Met Gly Gln Pro Ala Glu Val Gly  
215            220            225

Ala Ala Ala Val Phe Leu Ala Ser Glu Ala Asn Phe Cys Thr Gly  
230            235            240

Ile Glu Leu Leu Val Thr Gly Gly Ala Glu Leu Gly Tyr Gly Cys  
245            250            255

Lys Ala Ser Arg Ser Thr Pro Val Asp Ala Pro Asp Ile Pro Ser  
260            265            270

<210> 469

<211> 687

<212> DNA

<213> Homo sapiens

<400> 469

aggcgggcag cagctgcagg ctgacctgc agcttggcgg aatggactgg 50  
cctcacaacc tgctgtttct tettaccatt tccatcttcc tggggctggg 100  
ccagcccagg agccccaaaa gcaagaggaa ggggcaaggg cggcctgggc 150  
ccctggcccc tggcctcac caggtgccac tggacctggt gtcacggatg 200  
aaaccgtatg cccgcatgga ggagtatgag aggaacatcg aggagatggt 250  
ggcccagctg aggaacagct cagagctggc ccagagaaaag tgtgaggtca 300  
actgcagct gtggatgtcc aacaagagga gcctgtctcc ctggggctac 350  
agcatcaacc acgaccccag ccgtatcccc gtggacctgc cggaggcacg 400  
gtgcctgtgt ctgggctgtg tgaaccctt caccatgcag gaggaccgca 450  
gcatggtgag cgtgccggtg ttcagccagg ttctgtgcg ccgccgctc 500  
tgcccgccac cgccccgcac agggccttgc cggcagcgcg cagtcatgga 550  
gaccatcgct gtgggctgca cctgcatctt ctgaatcacc tggcccagaa 600  
gccagccag cagcccgaga ccacctctct tgcaccttg tgccaagaaa 650  
ggcctatgaa aagtaaacac tgacttttga aagcaag 687

<210> 470

<211> 180

<212> PRT

<213> Homo sapiens

<400> 470

Met Asp Trp Pro His Asn Leu Leu Phe Leu Leu Thr Ile Ser Ile  
1 5 10 15

Phe Leu Gly Leu Gly Gln Pro Arg Ser Pro Lys Ser Lys Arg Lys  
20 25 30

Gly Gln Gly Arg Pro Gly Pro Leu Ala Pro Gly Pro His Gln Val  
35 40 45

Pro Leu Asp Leu Val Ser Arg Met Lys Pro Tyr Ala Arg Met Glu

	50	55	60	
Glu Tyr Glu Arg Asn Ile Glu Glu Met Val Ala Gln Leu Arg Asn				
	65	70	75	
Ser Ser Glu Leu Ala Gln Arg Lys Cys Glu Val Asn Leu Gln Leu				
	80	85	90	
Trp Met Ser Asn Lys Arg Ser Leu Ser Pro Trp Gly Tyr Ser Ile				
	95	100	105	
Asn His Asp Pro Ser Arg Ile Pro Val Asp Leu Pro Glu Ala Arg				
	110	115	120	
Cys Leu Cys Leu Gly Cys Val Asn Pro Phe Thr Met Gln Glu Asp				
	125	130	135	
Arg Ser Met Val Ser Val Pro Val Phe Ser Gln Val Pro Val Arg				
	140	145	150	
Arg Arg Leu Cys Pro Pro Pro Pro Arg Thr Gly Pro Cys Arg Gln				
	155	160	165	
Arg Ala Val Met Glu Thr Ile Ala Val Gly Cys Thr Cys Ile Phe				
	170	175	180	

<210> 471  
 <211> 2368  
 <212> DNA  
 <213> Homo sapiens

<400> 471  
 gcgcccag gcgtagggc ggtggccctt gcgtctccc cttcctgaa 50  
 aaaccggcg ggcgagcgag gctgcgggcc ggccgctgcc ctccccaca 100  
 ctccccgag agaagcctcg ctggcgccc aacatggcgg gtggcgctg 150  
 cggcccag ctaacggcgc tctggcgc ctggatcgc gctgtggcg 200  
 cgacggcagg cccgaggag gccgcctgc cgccggagca gagccgggtc 250  
 cagccatga ccgcctcaa ctggacgctg gtgatggagg gcgagtggat 300  
 gctgaaatt tacgccccat ggtgtccatc ctgccagcag actgattcag 350

aatgggaggc tttgcaaag aatggtgaaa tacttcagat cagtggtggg 400  
aaggtagatg tcattcaaga accaggtttg agtggccgct tctttgtcac 450  
cactctcca gcatttttc atgcaaagga tgggatattc cgccgttacc 500  
gtggcccagg aatcttcgaa gacctgcaga attatatctt agagaagaaa 550  
tggcaatcag tcgagcctct gactggctgg aaatcccag cttctctaac 600  
gatgtctgga atggctggtc ttttagcat ctctggcaag atatggcatc 650  
ttcacaacta ttcacagtg actcttgaa ttctgcttg gtgttctat 700  
gtgttttcg tcatagccac ctgggtttt ggcctttta tgggtctggt 750  
cttgggtgta atatcagaat gtttctatgt gccactcca aggcattat 800  
ctgagcgttc tgagcagaat cggagatcag aggaggctca tagagctgaa 850  
cagttgcagg atgcggagga ggaaaaagat gattcaaatg aagaagaaaa 900  
caaagacagc cttgtagatg atgaagaaga gaaagaagat cttggcgatg 950  
aggatgaagc agaggaagaa gaggaggagg acaacttggc tgctggtgtg 1000  
gatgaggaga gaagtgagc caatgatcag gggccccag gagaggacgg 1050  
tgtgaccgg gaggaagtag agcctgagga ggctgaagaa ggcactctg 1100  
agcaaccctg cccagctgac acagaggtg tggaagactc cttgaggcag 1150  
cgtaaaagtc agcatgctga caagggactg tagatttaat gatgcgttt 1200  
caagaatata caccaaaaca atatgtcagc ttcccttgg cctgcagtt 1250  
gtaccaaate ctaattttt cctgaatgag caagcttctc taaaagatg 1300  
ctctctagtc atttggctc atggcagtaa gcctcatgta tactaaggag 1350  
agtcttcag gtgtgacaat caggatatag aaaaacaaac gtagtggtg 1400  
gatctgttg gagactggga tgggaacaag ttcatttact taggggtcag 1450  
agagtctga ccagaggagg ccattcccag tcctaatcag cacctccag 1500

agacaaggct gcaggccctg tgaaatgaaa gccaagcagg agccttggct 1550  
cctgagcatc cccaaagtgt aacgtagaag ccttgcaccc ttttctgtg 1600  
taaagtattt attttgtca aattgcagga aacatcaggc accacagtgc 1650  
atgaaaaatc tttcacagct agaaattgaa agggccttgg gtatagagag 1700  
cagctcagaa gtcacccag ccctctgaat ctctgtgct atgtttatt 1750  
tcttacctt aattttcca gcattccac catgggcatt caggctctcc 1800  
acactttca ctattatctc ttgtcagag gactccaata acagccaggt 1850  
ttacatgaac tgtgttgtt cattctgacc taaggggtt agataatcag 1900  
taaccataac ccctgaagct gtgactgcca aacatctcaa atgaaatgt 1950  
gtggccatca gagactcaaa aggaagtaag gattttacaa gacagattaa 2000  
aaaaaaatg tttgtccaa aatatagtg ttgtgatt tttttaagt 2050  
ttctaagca atattttca agccagaagt cctctaagtc ttgccagta 2100  
aaggtagtct tgtgaagaaa agttgaatac tgtttgtt tcatctcaag 2150  
gggttccctg ggtctgaac tactttaata ataactaaa aaccacttct 2200  
gattttcctt cagtgatgtg cttttgtga aagaattaat gaactccagt 2250  
acctgaaagt gaaagattg atttgttc catcttctgt aatcttcaa 2300  
agaattatat cttgtaaat ctctcaatac tcaatctact gtaagtacc 2350  
aggaggcta atttctt 2368

<210> 472

<211> 349

<212> PRT

<213> Homo sapiens

<400> 472

Met Ala Gly Gly Arg Cys Gly Pro Gln Leu Thr Ala Leu Leu Ala

1

5

10

15

Ala Trp Ile Ala Ala Val Ala Ala Thr Ala Gly Pro Glu Glu Ala

20 25 30

Ala Leu Pro Pro Glu Gln Ser Arg Val Gln Pro Met Thr Ala Ser

35 40 45

Asn Trp Thr Leu Val Met Glu Gly Glu Trp Met Leu Lys Phe Tyr

50 55 60

Ala Pro Trp Cys Pro Ser Cys Gln Gln Thr Asp Ser Glu Trp Glu

65 70 75

Ala Phe Ala Lys Asn Gly Glu Ile Leu Gln Ile Ser Val Gly Lys

80 85 90

Val Asp Val Ile Gln Glu Pro Gly Leu Ser Gly Arg Phe Phe Val

95 100 105

Thr Thr Leu Pro Ala Phe Phe His Ala Lys Asp Gly Ile Phe Arg

110 115 120

Arg Tyr Arg Gly Pro Gly Ile Phe Glu Asp Leu Gln Asn Tyr Ile

125 130 135

Leu Glu Lys Lys Trp Gln Ser Val Glu Pro Leu Thr Gly Trp Lys

140 145 150

Ser Pro Ala Ser Leu Thr Met Ser Gly Met Ala Gly Leu Phe Ser

155 160 165

Ile Ser Gly Lys Ile Trp His Leu His Asn Tyr Phe Thr Val Thr

170 175 180

Leu Gly Ile Pro Ala Trp Cys Ser Tyr Val Phe Phe Val Ile Ala

185 190 195

Thr Leu Val Phe Gly Leu Phe Met Gly Leu Val Leu Val Val Ile

200 205 210

Ser Glu Cys Phe Tyr Val Pro Leu Pro Arg His Leu Ser Glu Arg

215 220 225

Ser Glu Gln Asn Arg Arg Ser Glu Glu Ala His Arg Ala Glu Gln

230 235 240

Leu Gln Asp Ala Glu Glu Glu Lys Asp Asp Ser Asn Glu Glu Glu  
245 250 255

Asn Lys Asp Ser Leu Val Asp Asp Glu Glu Glu Lys Glu Asp Leu  
260 265 270

Gly Asp Glu Asp Glu Ala Glu Glu Glu Glu Glu Glu Asp Asn Leu  
275 280 285

Ala Ala Gly Val Asp Glu Glu Arg Ser Glu Ala Asn Asp Gln Gly  
290 295 300

Pro Pro Gly Glu Asp Gly Val Thr Arg Glu Glu Val Glu Pro Glu  
305 310 315

Glu Ala Glu Glu Gly Ile Ser Glu Gln Pro Cys Pro Ala Asp Thr  
320 325 330

Glu Val Val Glu Asp Ser Leu Arg Gln Arg Lys Ser Gln His Ala  
335 340 345

Asp Lys Gly Leu

<210> 473

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 473

gtccagccca tgaccgcctc caac 24

<210> 474

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 474

ctctctcat ccacaccagc agcc 24



<210> 475

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 475

gtggatgctg aaatTTacg ccccatggTg tccatcctgc cagc 44

<210> 476

<211> 2478

<212> DNA

<213> Homo sapiens

<400> 476

atctggtTga actactTaaG cTtaattgt taaactccGg taagtaccta 50

gcccacatga tttgactcag agattctctt ttgtccacag acagtcatt 100

caggggcaga aagaaaagag ctcccaatg ctatatctat tcaggggctc 150

tcaagaacaa tggaatatca tcctgattta gaaaattTgG atgaagatgg 200

atatactcaa ttacactTcg actctcaaG caataccagg atagctgtTg 250

tttcagagaa aggatcgtgt gctgcatctc ctcttggcg cctcattgct 300

gtaattTtgg gaatcctatg ctTggtaata ctggTgatag ctgtggctcct 350

gggtaccatg ggggttcttt ccagccctTg tcctcctaTt tggattatat 400

atgagaagag ctgttatcta ttcagcatgt cactaaattc ctgggatTgga 450

agtaaaagac aatgctgTgca actgggctct aatctcctaa agatagacag 500

ctcaaatgaa ttgggattta tagtaaaaca agtgtcttcc caacctgata 550

attcattTtG gatagGcctt tctcgGcccc agactgaggt accatggctc 600

tgggaggatg gatcaacatt ctcttctaac ttattcaga tcagaaccac 650

agctacccaa gaaaacccat ctccaaattg tGtatggatt cacgtGtcag 700

tcatttatga ccaactgtgt agtgtgccct catatagat ttgtgagaag 750  
aagttttcaa tgtaagagga aggggtggaga aggagagaga aatatgtgag 800  
gtagtaagga ggacagaaaa cagaacagaa aagagtaaca gctgaggta 850  
agataaatgc agaaaatgtt tagagagctt ggccaactgt aatcttaacc 900  
aagaaattga agggagaggc tgtgatttct gtattgtcg acctacaggt 950  
aggctagat tatttttcta gttagtagat ccctagacat ggaatcaggg 1000  
cagccaagct tgagttttta tttttattt atttatttt ttgagatagg 1050  
gtctcacttt gttaccagg ctggagtga gtggcacaat ctcgactcac 1100  
tgcagctatc tctcgcctca gccctcaag tagctgggac tacaggtgca 1150  
tgccaccatg ccaggctaata ttttgggttt tttttagag actggggttt 1200  
gccatgtga ccaagctggt ctctaactcc tgggcttaag tgatctgccc 1250  
gccttggcct cccaaagtgc tgggattaca gatgtgagcc accacacctg 1300  
gccccaaact tgaattttca ttctgccatt gacttggcat ttacctggg 1350  
taagccataa gegaatctta atttctggct ctatcagagt tgtttcatgc 1400  
tcaacaatgc cattgaagtgc cacggtgtgt tgccacgatt tgaccctcaa 1450  
cttctagcag tatatcagtt atgaactgag ggtgaaatat atttctgaat 1500  
agctaaatga agaaatggga aaaaatcttc accacagtca gagcaatttt 1550  
attattttca tcagtatgat cataattatg attatcatct tagtaaaaag 1600  
caggaactcc tactttttct ttatcaatta aatagctcag agagtacatc 1650  
tgccatatct ctaatagaat ctttttttt ttttttttt tttgagacag 1700  
agtttcgctc ttgttgccca ggctggagtgc caacggcagc atctcggctc 1750  
accgcaacct ccgccccctg ggttcaagca attctcctgc ctcagcctcc 1800  
caagtagctg ggattacagt caggcaccac cacaccgggc taattttgta 1850

ttttttagt agagacaggg ttctccatg tcggtcaggg tagtcccga 1900  
 ctctgacct caagtgatct gcctgcctcg gcctcccaag tgctgggatt 1950  
 acaggcgtga gccactgcac ccagcctaga atcttgata atatgtaatt 2000  
 gtagggaaac tgctctcata ggaaagtttt ctgctttta aatacaaaaa 2050  
 tacataaaaa tacataaaat ctgatgatga atataaaaa gtaaccaacc 2100  
 tcattggaac aagtattaac atttggaat atgtttatt agttttgtga 2150  
 tgtactgttt tacaatttt accattttt tcagtaatta ctgtaaaatg 2200  
 gtattattgg aatgaaacta tatttcctca tggctgatt tgccttatt 2250  
 ttttcatact ttccactgg tgctatttt attccaatg gatattctg 2300  
 tattactagg gaggcattta cagtcctcta atgttgatta atatgtgaaa 2350  
 agaaattgta ccaattttac taaattatgc agtttaaaat ggatgatttt 2400  
 atgttatgtg gatttcattt caataaaaaa aaactcttat caaaaaaaaa 2450  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaa 2478

<210> 477  
 <211> 201  
 <212> PRT  
 <213> Homo sapiens

<400> 477  
 Met Glu Tyr His Pro Asp Leu Glu Asn Leu Asp Glu Asp Gly Tyr  
 1 5 10 15  
 Thr Gln Leu His Phe Asp Ser Gln Ser Asn Thr Arg Ile Ala Val  
 20 25 30  
 Val Ser Glu Lys Gly Ser Cys Ala Ala Ser Pro Pro Trp Arg Leu  
 35 40 45  
 Ile Ala Val Ile Leu Gly Ile Leu Cys Leu Val Ile Leu Val Ile  
 50 55 60  
 Ala Val Val Leu Gly Thr Met Gly Val Leu Ser Ser Pro Cys Pro

65	70	75
Pro Asn Trp Ile Ile Tyr Glu Lys Ser Cys Tyr Leu Phe Ser Met		
80	85	90
Ser Leu Asn Ser Trp Asp Gly Ser Lys Arg Gln Cys Trp Gln Leu		
95	100	105
Gly Ser Asn Leu Leu Lys Ile Asp Ser Ser Asn Glu Leu Gly Phe		
110	115	120
Ile Val Lys Gln Val Ser Ser Gln Pro Asp Asn Ser Phe Trp Ile		
125	130	135
Gly Leu Ser Arg Pro Gln Thr Glu Val Pro Trp Leu Trp Glu Asp		
140	145	150
Gly Ser Thr Phe Ser Ser Asn Leu Phe Gln Ile Arg Thr Thr Ala		
155	160	165
Thr Gln Glu Asn Pro Ser Pro Asn Cys Val Trp Ile His Val Ser		
170	175	180
Val Ile Tyr Asp Gln Leu Cys Ser Val Pro Ser Tyr Ser Ile Cys		
185	190	195
Glu Lys Lys Phe Ser Met		
200		

<210> 478

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 478

gtccacagac agtcatctca ggagcag 27

<210> 479

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 479

acaagtgct tccaacctg 20

<210> 480

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 480

atcctcccag agccatgga cctc 24

<210> 481

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 481

ccaagatag ctgtgttc agagaaagga tcgtgtgctg catctctcc 50

t 51

<210> 482

<211> 3819

<212> DNA

<213> Homo sapiens

<400> 482

ggaaggggag gagcaggcca cacaggcaca ggccggtgag ggacctgccc 50

agacctggag ggtctcgctc tgcacacag gctggagtgc agtgggtgta 100

tcttgctca tcgtaacctc cacctcccgg gttcaagtga ttctatgcc 150

tcagcctccc gagtagctgg gattacaggt ggtgacttcc aagagtgact 200

ccgtcggagg aaaatgactc cccagtcgct gctgcagacg acactgttcc 250

tgctgagtct gctcttctg gtccaaggtg cccacggcag gggccacagg 300  
gaagacttc gcttctgcag ccagcggaac cagacacaca ggagcagcct 350  
ccactacaaa cccacaccag acctgcgcat ctccatcgag aactccgaag 400  
aggccctcac agtccatgcc cctttcctg cagcccaccc tgettcccga 450  
tccttcctg accccagggg cctctaccac ttctgcctct actggaaccg 500  
acatgctggg agattacatc ttctctatgg caagcgtgac ttcttctga 550  
gtgacaaaagc ctctagcctc ctctgcttc agcaccagga ggagagcctg 600  
gctcagggcc ccccgtgtt agccacttct gtcacctct ggtggagccc 650  
tcagaacatc agcctgccca gtgccggcag cttcaccttc tcctccaca 700  
gtcctcccca cacggccgct cacaatgctt cggtggacat gtgcgagctc 750  
aaaagggacc tccagctgct cagccagttc ctgaagcatc cccagaaggc 800  
ctcaaggagg cctcgggtg cccccgccag ccagcagttg cagagcctgg 850  
agtcgaaact gacctctgtg agattcatgg gggacatggt gtccttcgag 900  
gaggaccgga tcaacgccac ggtgtggaag ctccagccca cagccggcct 950  
ccaggacctg cacatccact cccggcagga ggaggagcag agcgagatca 1000  
tggagtactc ggtgtgctg cctcgaacac tctccagag gacgaaaggc 1050  
cggagcgggg aggctgagaa gagactcctc ctggtggact tcagcagcca 1100  
agccctgtc caggacaaga attccagcca agtctgggt gagaaggtct 1150  
tggggattgt ggtacagaac accaaagtag ccaacctcac ggagcccgtg 1200  
gtgctcactt tccagacca gctacagccg aagaatgtga ctctgcaatg 1250  
tgtttctgg gttgaagacc ccacattgag cagcccgggg cattggagca 1300  
gtgctgggtg tgagaccgtc aggagagaaa cccaaacatc ctgcttctgc 1350  
aaccactga cctacttgc agtgcgatg gtctcctcgg tggaggtgga 1400

cgccgtgcac aagcactacc tgagcctcct ctctacgtg ggctgtgctg 1450  
tctctgccct ggctgcctt gtcaccattg ccgcctacct ctgtccagg 1500  
gtgccctgc cgtgcaggag gaaacctcgg gactacacca tcaaggtgca 1550  
catgaacctg ctgtggccg tcttctgct ggacacgagc ttctgtca 1600  
gcgagccggt ggcctgaca ggctctgagg ctggctgcc agccagtgcc 1650  
atcttctgc acttctcct gtcacctgc ctttctgga tggcctcga 1700  
gggtacaac ctctaccgac tcgtggtgga ggtcttggc acctatgtcc 1750  
ctggctacct actcaagctg agcgcctatg gctggggctt cccatctt 1800  
ctggtgacgc tgggtgccct ggtggatgtg gacaactatg gccccatcat 1850  
ctggctgtg cataggactc cagagggcgt catctacct tccatgtgt 1900  
ggatccggga ctccctggtc agctacatca ccaacctggg cctctcagc 1950  
ctggtgttc tgtcaacat ggccatgcta gccaccatgg tggcgagat 2000  
cctgaggctg cgccccaca ccaaaaagt gtcacatgtg ctgacactgc 2050  
tggcctcag cctggtcctt ggctgcctt gggcctgat cttctctcc 2100  
ttgtcttg gcacctcca gctgtcgtc ctctacctt tcagcatcat 2150  
cacctcttc caaggttcc tcatttcat ctggtactgg tccatgaggc 2200  
tgcaggcccg ggggtggccc tcccctctga agagcaactc agacagcgc 2250  
aggctccca tcagctcggg cagcacctcg tccagccgca tctaggctc 2300  
cagcccacct gccatgtga tgaagcagag atcggcctc gtcgacact 2350  
gcctgtggcc cccgagccag gccagcccc aggccagtca gccgagact 2400  
ttgaaagcc caacgacct ggagagatgg gccgttcca tgggtgacgg 2450  
actcccgggc tgggctttg aattggcctt ggggactact cggtctcac 2500  
tcagctccca cgggactcag aagtgcgcc ccatgctgcc taggtactg 2550

tccccacatc tgtcccaacc cagctggagg cctggtctct ccttacaacc 2600  
cctgggcca gccctcattg ctggggcca ggccttgat cttgagggtc 2650  
tggcacatcc ttaatctgt gccctgcct gggacagaaa tgggctcca 2700  
gttgctctgt ctctcgtgt caccctgagg gcactctgca tcctctgtca 2750  
tttaacctc aggtggcacc cagggcgaat ggggccagg gcagacctc 2800  
agggccagag ccctggcga ggagaggccc ttgccagga gcacagcagc 2850  
agctgccta cctctgagcc caggcccct cctcctca gccccagt 2900  
cctcctca tctcctgg ggtctctc ctctccagg gcctcctgc 2950  
tcctcgtc acagctgggg gtccccgatt ccaatgctgt ttttgggga 3000  
gtggttcca ggagctgct ggtgtctgt gtaaagtgt gtctactgca 3050  
caagcctcg cctgcccctg agccaggctc ggtaccgat cgtgggctgg 3100  
gctaggtccc tctgtccatc tgggccttg tatgagctgc atgcccctg 3150  
ctcacctga ccaagcacac gcctcagagg ggcctcagc ctctctgaa 3200  
ggcctctgt ggcaagaact gggaccatg ccagtcccgt ctggttcca 3250  
tcccaccact ccaaggactg agactgacct cctctggtga cactggccta 3300  
gagcctgaca ctctcctaag aggttctctc caagccccca aatagctcca 3350  
ggcgcctcg gccgccatc atggttaatt ctgtccaaca aacacacacg 3400  
gtagattgc tggcctgtg tagtggttag ggacacagat gaccgacctg 3450  
gtcactctc ctgccaacat tcagtctgt atgtaggcg tgcgtgaagc 3500  
aagaactct ggagctacag ggacaggag ccatcattcc tgctgggaa 3550  
tcctggaaga ctctctcag gagtcagct tcaatctga ccttgaagat 3600  
gggaaggatg ttcttttac gtaccaattc tttgtctt tgatattaa 3650  
aagaagtaca tgttcattgt agagaattg gaaactgtag aagagaatca 3700



agaagaaaaa taaaaatcag ctgttgtaat cgcctagcaa aaaaaaaaaa 3750

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3800

aaaaaaaaaa aaaaaaaaaa 3819

<210> 483

<211> 693

<212> PRT

<213> Homo sapiens

<400> 483

Met Thr Pro Gln Ser Leu Leu Gln Thr Thr Leu Phe Leu Leu Ser  
1 5 10 15

Leu Leu Phe Leu Val Gln Gly Ala His Gly Arg Gly His Arg Glu  
20 25 30

Asp Phe Arg Phe Cys Ser Gln Arg Asn Gln Thr His Arg Ser Ser  
35 40 45

Leu His Tyr Lys Pro Thr Pro Asp Leu Arg Ile Ser Ile Glu Asn  
50 55 60

Ser Glu Glu Ala Leu Thr Val His Ala Pro Phe Pro Ala Ala His  
65 70 75

Pro Ala Ser Arg Ser Phe Pro Asp Pro Arg Gly Leu Tyr His Phe  
80 85 90

Cys Leu Tyr Trp Asn Arg His Ala Gly Arg Leu His Leu Leu Tyr  
95 100 105

Gly Lys Arg Asp Phe Leu Leu Ser Asp Lys Ala Ser Ser Leu Leu  
110 115 120

Cys Phe Gln His Gln Glu Glu Ser Leu Ala Gln Gly Pro Pro Leu  
125 130 135

Leu Ala Thr Ser Val Thr Ser Trp Trp Ser Pro Gln Asn Ile Ser  
140 145 150

Leu Pro Ser Ala Ala Ser Phe Thr Phe Ser Phe His Ser Pro Pro  
155 160 165

His Thr Ala Ala His Asn Ala Ser Val Asp Met Cys Glu Leu Lys  
170 175 180

Arg Asp Leu Gln Leu Leu Ser Gln Phe Leu Lys His Pro Gln Lys  
185 190 195

Ala Ser Arg Arg Pro Ser Ala Ala Pro Ala Ser Gln Gln Leu Gln  
200 205 210

Ser Leu Glu Ser Lys Leu Thr Ser Val Arg Phe Met Gly Asp Met  
215 220 225

Val Ser Phe Glu Glu Asp Arg Ile Asn Ala Thr Val Trp Lys Leu  
230 235 240

Gln Pro Thr Ala Gly Leu Gln Asp Leu His Ile His Ser Arg Gln  
245 250 255

Glu Glu Glu Gln Ser Glu Ile Met Glu Tyr Ser Val Leu Leu Pro  
260 265 270

Arg Thr Leu Phe Gln Arg Thr Lys Gly Arg Ser Gly Glu Ala Glu  
275 280 285

Lys Arg Leu Leu Leu Val Asp Phe Ser Ser Gln Ala Leu Phe Gln  
290 295 300

Asp Lys Asn Ser Ser Gln Val Leu Gly Glu Lys Val Leu Gly Ile  
305 310 315

Val Val Gln Asn Thr Lys Val Ala Asn Leu Thr Glu Pro Val Val  
320 325 330

Leu Thr Phe Gln His Gln Leu Gln Pro Lys Asn Val Thr Leu Gln  
335 340 345

Cys Val Phe Trp Val Glu Asp Pro Thr Leu Ser Ser Pro Gly His  
350 355 360

Trp Ser Ser Ala Gly Cys Glu Thr Val Arg Arg Glu Thr Gln Thr  
365 370 375

Ser Cys Phe Cys Asn His Leu Thr Tyr Phe Ala Val Leu Met Val  
380 385 390

Ser Ser Val Glu Val Asp Ala Val His Lys His Tyr Leu Ser Leu  
395 400 405

Leu Ser Tyr Val Gly Cys Val Val Ser Ala Leu Ala Cys Leu Val  
410 415 420

Thr Ile Ala Ala Tyr Leu Cys Ser Arg Val Pro Leu Pro Cys Arg  
425 430 435

Arg Lys Pro Arg Asp Tyr Thr Ile Lys Val His Met Asn Leu Leu  
440 445 450

Leu Ala Val Phe Leu Leu Asp Thr Ser Phe Leu Leu Ser Glu Pro  
455 460 465

Val Ala Leu Thr Gly Ser Glu Ala Gly Cys Arg Ala Ser Ala Ile  
470 475 480

Phe Leu His Phe Ser Leu Leu Thr Cys Leu Ser Trp Met Gly Leu  
485 490 495

Glu Gly Tyr Asn Leu Tyr Arg Leu Val Val Glu Val Phe Gly Thr  
500 505 510

Tyr Val Pro Gly Tyr Leu Leu Lys Leu Ser Ala Met Gly Trp Gly  
515 520 525

Phe Pro Ile Phe Leu Val Thr Leu Val Ala Leu Val Asp Val Asp  
530 535 540

Asn Tyr Gly Pro Ile Ile Leu Ala Val His Arg Thr Pro Glu Gly  
545 550 555

Val Ile Tyr Pro Ser Met Cys Trp Ile Arg Asp Ser Leu Val Ser  
560 565 570

Tyr Ile Thr Asn Leu Gly Leu Phe Ser Leu Val Phe Leu Phe Asn  
575 580 585

Met Ala Met Leu Ala Thr Met Val Val Gln Ile Leu Arg Leu Arg  
590 595 600

Pro His Thr Gln Lys Trp Ser His Val Leu Thr Leu Leu Gly Leu  
605 610 615

Ser Leu Val Leu Gly Leu Pro Trp Ala Leu Ile Phe Phe Ser Phe  
620 625 630

Ala Ser Gly Thr Phe Gln Leu Val Val Leu Tyr Leu Phe Ser Ile  
635 640 645

Ile Thr Ser Phe Gln Gly Phe Leu Ile Phe Ile Trp Tyr Trp Ser  
650 655 660

Met Arg Leu Gln Ala Arg Gly Gly Pro Ser Pro Leu Lys Ser Asn  
665 670 675

Ser Asp Ser Ala Arg Leu Pro Ile Ser Ser Gly Ser Thr Ser Ser  
680 685 690

Ser Arg Ile

<210> 484

<211> 516

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 68, 70, 84, 147

<223> unknown base

<400> 484

tgcctggcct gcctgtcaa caatgccgct tactctgctt ccagttgcc 50

ctgccttgca gaggaaan cn tgggactac accntcaagt gcacatgaac 100

ctgctgctgg ccgtcttct gctggacacg agcttctgc tcagcgnagc 150

cggtggccct gacaggctct gaaggctggc tgccgagcca gtgccatctt 200

cctgcacttc tctgctcac ctgccttcc tggatgggcc tcgaggggta 250

caacctctac cgactcgtgg tggaggtctt tggcacctat gtccctggct 300

acctactcaa gctgagcgcc atgggctggg gcttccccat ctttctggtg 350

acgctggtgg ccctggtgga tgtggacaac tatggcccca tcatcttggc 400

tgtgcatagg actccagagg gcgtcatcta cccttccatg tgctggatcc 450

gggactccct ggtcagctac atcaccaacc tgggcctctt cagcctggtg 500

tttctgttca acatgg 516

<210> 485

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 485

ggcattggag cagtgctggg tg 22

<210> 486

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 486

tggaggccta gatgcggctg gacg 24

<210> 487

<211> 2849

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 2715

<223> unknown base

<400> 487

cggacgcgtg ggcggacgcg tgggcggacg cgtgggcgga cgcgtgggct 50

ggttcaggtc caggttttgc tttgatcctt ttcaaaaact ggagacacag 100

aagagggtc taggaaaaag ttttgatgg gattatgtgg aaactaccct 150

gcgattctct gctgccagag caggctcggc gcttccacc cagtgcagcc 200  
ttcccctggc ggtggtgaaa gagactcggg agtcgctgct tccaaagtgc 250  
ccgccgtgag tgagctctca cccagtcag ccaaatgagc ctcttcgggc 300  
ttctctgct gacatctgcc ctggccggcc agagacaggg gactcaggcg 350  
gaatccaacc tgagtagtaa attccagttt tccagcaaca aggaacagaa 400  
cggagtacaa gatcctcagc atgagagaat tattactgtg tctactaatg 450  
gaagtattca cagcccaagg tttcctcata cttatccaag aaatacggtc 500  
ttggtatgga gattagtagc agtagaggaa aatgtatgga tacaacttac 550  
gtttgatgaa agatttggc ttgaagacc agaagatgac atatgcaagt 600  
atgattttgt agaagttgag gaaccagtg atggaactat attagggcgc 650  
tggtgtggtt ctggtactgt accaggaaaa cagatttcta aaggaaatca 700  
aattaggata agatttgtat ctgatgaata tttccttct gaaccagggt 750  
tctgcatcca ctacaacatt gcatgccac aattcacaga agctgtgagt 800  
ccttcagtc tacccttc agctttgcca ctggacctgc ttaataatgc 850  
tataactgcc ttagtacct tggaagacct tattcgatat ctgaaccag 900  
agagatggca gttggactta gaagatctat ataggccaac ttggcaactt 950  
cttggcaagg cttttgtttt tggaagaaaa tccagagtgg tggatctgaa 1000  
ccttctaaca gaggaggtaa gattatacag ctgcacacct cgtaacttct 1050  
cagtgccat aagggaagaa ctaaagagaa ccgataccat tttctggcca 1100  
ggtgtctcc tggtaaagc ctgtgggtgg aactgtgcct gttgtctcca 1150  
caattgcaat gaatgtcaat gtgtccaag caaagtact aaaaaatacc 1200  
acgaggtcct tcagttgaga ccaagaccg gtgtcagggg attgcacaaa 1250  
tcactaccg acgtggcct ggagcacat gaggagtgtg actgtgtgtg 1300

cagagggagc acaggaggat agccgcatca ccaccagcag ctcttgccca 1350  
gagctgtgca gtcagtgcc tgattctatt agagaacgta tgcgttatct 1400  
ccatccttaa tctcagttgt ttgcttcaag gacctttcat cttcaggatt 1450  
tacagtgcac tctgaaagag gagacatcaa acagaattag gagttgtgca 1500  
acagctcttt tgagaggagg cctaaaggac aggagaaaag gtcttcaatc 1550  
gtggaaagaa aattaaatgt tgtattaaat agatcaccag ctagtctcag 1600  
agttaccatg tacgtattcc actagctggg ttctgtattt cagttcttc 1650  
gatacggctt agggtaatgt cagtacagga aaaaaactgt gcaagtgagc 1700  
acctgattcc gttgccttgc ttaactctaa agtccatgt cctgggctca 1750  
aaatcgata aaatctggat tttttttt tttttgctc atattcacat 1800  
atgtaaacca gaacattcta tgactacaa acctggttt taaaaggaa 1850  
ctatgttgc atgaattaa cttgtgtcat gctgatagga cagactggat 1900  
tttcatatt tcttattaa atttctgcca tttagaagaa gagaactaca 1950  
ttcatggtt ggaagagata aacctgaaa gaagagtggc cttatctca 2000  
ctttatcgat aagtcagttt atttgttca ttgtgtacat ttttatattc 2050  
tcctttgac attataactg ttggctttc taatcttgtt aaatatact 2100  
attttacca aaggtattta atattcttt ttatgacaac ttagatcaac 2150  
tatttttagc ttggtaaatt ttctaaaca caattgtat agccagagga 2200  
acaaagatga tataaaatat tgttgctctg acaaaaatac atgtattca 2250  
ttctcgatg gtgctagagt tagattaatc tgcatttaa aaaactgaat 2300  
tggaatagaa ttgtaagtt gcaaagactt ttgaaaata attaaattat 2350  
catacttcc attcctgta ttggagatga aaataaaaag caacttatga 2400  
aagtagacat tcagatccag ccattactaa cctattcctt tttggggaa 2450

atctgagcct agctcagaaa aacataaagc acctgaaaa agacttggca 2500

gcttctgat aaagcgtgct gtgctgtgca gtaggaacac atcctattta 2550

ttgtgatgtt gtggttttat tatcttaaac tctgttccat acacttgtat 2600

aaatacatgg atatttttat gtacagaagt atgtctctta accagttcac 2650

ttattgtact ctggcaattt aaaagaaaat cagtaaaata ttttgcttgt 2700

aaaatgctta atatngtgcc taggttatgt ggtgactatt tgaatcaaaa 2750

atgtattgaa tcatcaaata aaagaatgtg gctattttgg ggagaaaatt 2800

aaaaaaaaa aaaaaaaaaa aggttaggg ataacagggt aatgcggcc 2849

<210> 488

<211> 345

<212> PRT

<213> Homo sapiens

<400> 488

Met Ser Leu Phe Gly Leu Leu Leu Leu Thr Ser Ala Leu Ala Gly  
1 5 10 15

Gln Arg Gln Gly Thr Gln Ala Glu Ser Asn Leu Ser Ser Lys Phe  
20 25 30

Gln Phe Ser Ser Asn Lys Glu Gln Asn Gly Val Gln Asp Pro Gln  
35 40 45

His Glu Arg Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser  
50 55 60

Pro Arg Phe Pro His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp  
65 70 75

Arg Leu Val Ala Val Glu Glu Asn Val Trp Ile Gln Leu Thr Phe  
80 85 90

Asp Glu Arg Phe Gly Leu Glu Asp Pro Glu Asp Asp Ile Cys Lys  
95 100 105

Tyr Asp Phe Val Glu Val Glu Glu Pro Ser Asp Gly Thr Ile Leu  
110 115 120



Gly Arg Trp Cys Gly Ser Gly Thr Val Pro Gly Lys Gln Ile Ser  
125 130 135

Lys Gly Asn Gln Ile Arg Ile Arg Phe Val Ser Asp Glu Tyr Phe  
140 145 150

Pro Ser Glu Pro Gly Phe Cys Ile His Tyr Asn Ile Val Met Pro  
155 160 165

Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu Pro Pro Ser Ala  
170 175 180

Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala Phe Ser Thr  
185 190 195

Leu Glu Asp Leu Ile Arg Tyr Leu Glu Pro Glu Arg Trp Gln Leu  
200 205 210

Asp Leu Glu Asp Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly Lys  
215 220 225

Ala Phe Val Phe Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu  
230 235 240

Leu Thr Glu Glu Val Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe  
245 250 255

Ser Val Ser Ile Arg Glu Glu Leu Lys Arg Thr Asp Thr Ile Phe  
260 265 270

Trp Pro Gly Cys Leu Leu Val Lys Arg Cys Gly Gly Asn Cys Ala  
275 280 285

Cys Cys Leu His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys  
290 295 300

Val Thr Lys Lys Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr  
305 310 315

Gly Val Arg Gly Leu His Lys Ser Leu Thr Asp Val Ala Leu Glu  
320 325 330

His His Glu Glu Cys Asp Cys Val Cys Arg Gly Ser Thr Gly Gly  
335 340 345

<210> 489  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 489  
acttctcagt gtccataagg g 21

<210> 490  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 490  
gaactaaaga gaaccgatac cattttctgg ccaggtgtc 40

<210> 491  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 491  
caccacagcg ttaaccagg 20

<210> 492  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 492  
acaacaggca cagttcccac 20

<210> 493

<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 493  
ggcggaatcc aacctgagta g 21

<210> 494  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 494  
gcggtatcc tctgtgctc 20

<210> 495  
<211> 3283  
<212> DNA  
<213> Homo sapiens

<400> 495  
cccattctcaa gctgatcttg gcacctctca tgctctgctc tcttcaacca 50  
gacctctaca ttccatttg gaagaagact aaaaatggtg ttccaatgt 100  
ggacactgaa gagacaaatt cttatccttt ttaacataat cctaatttc 150  
aaactccttg gggctagatg gtttctaaa actctgcct gtgatgtcac 200  
tctggatgtt ccaaagaacc atgtgatcgt ggactgcaca gacaagcatt 250  
tgacagaaat tctggagggt attccacga acaccacgaa cctcacctc 300  
accattaacc acataccaga catctcccca gcgtccttc acagactgga 350  
ccatctggta gagatgatt tcagatgcaa ctgtgtacct attccactgg 400  
ggtcaaaaaa caacatgtgc atcaagaggc tgcagattaa acccagaagc 450

tttagtggac tcacttattt aaaatccctt tacctggatg gaaaccagct 500  
actagagata ccgcagggcc tcccgcctag cttacagctt ctcagccttg 550  
aggccaacaa catcttttcc atcagaaaag agaatactaac agaactggcc 600  
aacatagaaa tactctacct gggccaaaac tgttattatc gaaatccttg 650  
ttatgtttca tattcaatag agaaagatgc cttcctaaac ttgacaaagt 700  
taaaagtgct ctcctgaaa gataacaatg tcacagccgt ccctactgtt 750  
ttgccatcta cttaacaga actatatctc tacaacaaca tgattgcaa 800  
aatccaagaa gatgatttta ataacctcaa ccaattacaa attcttgacc 850  
taagtggaaa ttgccctcgt tgttataatg cccatttcc ttgtgcgccg 900  
tgtaaaaata attctcccct acagatccct gtaaagtctt ttgatgcgct 950  
gacagaatta aaagttttac gtctacacag taactctctt cagcatgtgc 1000  
ccccaagatg gtttaagaac atcaacaac tccaggaact ggatctgtcc 1050  
caaaacttct tggccaaaga aattggggat gctaaattc tgcattttct 1100  
ccccagcctc atccaattgg atctgtcttt caattttgaa cttcaggtct 1150  
atcgtgcac tatgaatcta tcacaagcat tttcttact gaaaagcctg 1200  
aaaattctgc ggatcagagg atatgtcttt aaagagttga aaagcttaa 1250  
cctctcgcca ttacataatc ttcaaatct tgaagtctt gatcttggca 1300  
ctaactttat aaaaattgct aacctcagca tgtttaaaca atttaaaga 1350  
ctgaaagtca tagatcttc agtgaataaa atatcacctt caggagattc 1400  
aagtgaagtt ggcttctgct caaatgccag aacttctgta gaaagttatg 1450  
aaccccaggt cctggaacaa ttacattatt tcagatatga taagtatgca 1500  
aggagtgtca gattcaaaaa caaagaggct tcttcatgt ctgttaatga 1550  
aagctgtac aagtatgggc agaccttggga tctaagtaaa aatagtatat 1600

ttttgtcaa gtctctgat tttcagcatc ttctttctct caaatgcctg 1650  
aatctgtcag gaaatctcat tagccaaact cttaatggca gtgaattcca 1700  
accttagca gagctgagat attggactt ctccaacaac cggcttgatt 1750  
tactccattc aacagcattt gaagagcttc acaaactgga agttctggat 1800  
ataagcagta atagccatta tttcaatca gaaggaatta ctcatatgct 1850  
aaactttacc aagaacctaa aggttctgca gaaactgatg atgaacgaca 1900  
atgacatctc ttctccacc agcaggacca tggagagtga gtctcttaga 1950  
actctggaat tcagaggaaa tcaacttagat gttttatgga gagaaggtga 2000  
taacagatac ttacaattat tcaagaatct gctaaaatta gaggaattag 2050  
acatctctaa aaattcccta agtttcttgc ctctggagt tttgatggt 2100  
atgcctccaa atctaaagaa tctctcttg gccaaaaatg ggctcaaate 2150  
tttcagttgg aagaaactcc agtgtctaaa gaacctggaa actttggacc 2200  
tcagccacaa ccaactgacc actgtccctg agagattatc caactgttcc 2250  
agaagcctca agaattctgat tcttaagaat aatcaaatca ggagtctgac 2300  
gaagtatttt ctacaagatg ccttccagtt gcgatatctg gatctcagct 2350  
caaataaaat ccagatgatc caaaagacca gcttcccaga aaatgtcctc 2400  
aacaatctga agatgttgct tttgcatcat aatcggttc tgtgcacctg 2450  
tgatgctgtg tggttgtct ggtggggtta ccatacggag gtgactattc 2500  
cttacctggc cacagatgtg acttgtgtgg ggccaggagc acacaagggc 2550  
caaagtgtga tctccctgga tctgtacacc tgtgagttag atctgactaa 2600  
cctgattctg ttctacttt ccatactgt atctctttt ctcatggtga 2650  
tgatgacagc aagtcacctc tatttctggg atgtgtggtta tattaccat 2700  
ttctgtaagg ccaagataaa ggggtatcag cgtctaataat caccagactg 2750

ttgctatgat gcttttattg tgtatgacac taaagacca gctgtgaccg 2800  
 agtgggtttt ggctgagctg gtggccaaac tggaagaccc aagagagaaa 2850  
 cattttaatt tatgtctcga ggaaagggac tggttaccag ggcagccagt 2900  
 tctggaaaac ctttccaga gcatacagct tagcaaaaag acagtgttg 2950  
 tgatgacaga caagtatgca aagactgaaa attttaagat agcattttac 3000  
 ttgtcccatc agaggctcat ggatgaaaaa gttgatgtga ttatcttgat 3050  
 atttctgag aagcccttc agaagtcca gttcctccag ctccgaaaa 3100  
 ggctctgtgg gattctgtc cttgagtggc caacaaacc gcaagctcac 3150  
 ccatacttct ggcagtgtct aaagaacgcc ctggccacag acaatcatgt 3200  
 ggcctatagt caggtgttca aggaaacggc ctagcccttc tttgcaaac 3250  
 acaactgct agttacca ggagaggcct ggc 3283

<210> 496  
 <211> 1049  
 <212> PRT  
 <213> Homo sapiens

<400> 496  
 Met Val Phe Pro Met Trp Thr Leu Lys Arg Gln Ile Leu Ile Leu  
 1            5            10            15  
 Phe Asn Ile Ile Leu Ile Ser Lys Leu Leu Gly Ala Arg Trp Phe  
           20            25            30  
 Pro Lys Thr Leu Pro Cys Asp Val Thr Leu Asp Val Pro Lys Asn  
           35            40            45  
 His Val Ile Val Asp Cys Thr Asp Lys His Leu Thr Glu Ile Pro  
           50            55            60  
 Gly Gly Ile Pro Thr Asn Thr Thr Asn Leu Thr Leu Thr Ile Asn  
           65            70            75  
 His Ile Pro Asp Ile Ser Pro Ala Ser Phe His Arg Leu Asp His  
           80            85            90

Leu Val Glu Ile Asp Phe Arg Cys Asn Cys Val Pro Ile Pro Leu  
95 100 105

Gly Ser Lys Asn Asn Met Cys Ile Lys Arg Leu Gln Ile Lys Pro  
110 115 120

Arg Ser Phe Ser Gly Leu Thr Tyr Leu Lys Ser Leu Tyr Leu Asp  
125 130 135

Gly Asn Gln Leu Leu Glu Ile Pro Gln Gly Leu Pro Pro Ser Leu  
140 145 150

Gln Leu Leu Ser Leu Glu Ala Asn Asn Ile Phe Ser Ile Arg Lys  
155 160 165

Glu Asn Leu Thr Glu Leu Ala Asn Ile Glu Ile Leu Tyr Leu Gly  
170 175 180

Gln Asn Cys Tyr Tyr Arg Asn Pro Cys Tyr Val Ser Tyr Ser Ile  
185 190 195

Glu Lys Asp Ala Phe Leu Asn Leu Thr Lys Leu Lys Val Leu Ser  
200 205 210

Leu Lys Asp Asn Asn Val Thr Ala Val Pro Thr Val Leu Pro Ser  
215 220 225

Thr Leu Thr Glu Leu Tyr Leu Tyr Asn Asn Met Ile Ala Lys Ile  
230 235 240

Gln Glu Asp Asp Phe Asn Asn Leu Asn Gln Leu Gln Ile Leu Asp  
245 250 255

Leu Ser Gly Asn Cys Pro Arg Cys Tyr Asn Ala Pro Phe Pro Cys  
260 265 270

Ala Pro Cys Lys Asn Asn Ser Pro Leu Gln Ile Pro Val Asn Ala  
275 280 285

Phe Asp Ala Leu Thr Glu Leu Lys Val Leu Arg Leu His Ser Asn  
290 295 300

Ser Leu Gln His Val Pro Pro Arg Trp Phe Lys Asn Ile Asn Lys  
305 310 315

Leu Gln Glu Leu Asp Leu Ser Gln Asn Phe Leu Ala Lys Glu Ile  
320 325 330

Gly Asp Ala Lys Phe Leu His Phe Leu Pro Ser Leu Ile Gln Leu  
335 340 345

Asp Leu Ser Phe Asn Phe Glu Leu Gln Val Tyr Arg Ala Ser Met  
350 355 360

Asn Leu Ser Gln Ala Phe Ser Ser Leu Lys Ser Leu Lys Ile Leu  
365 370 375

Arg Ile Arg Gly Tyr Val Phe Lys Glu Leu Lys Ser Phe Asn Leu  
380 385 390

Ser Pro Leu His Asn Leu Gln Asn Leu Glu Val Leu Asp Leu Gly  
395 400 405

Thr Asn Phe Ile Lys Ile Ala Asn Leu Ser Met Phe Lys Gln Phe  
410 415 420

Lys Arg Leu Lys Val Ile Asp Leu Ser Val Asn Lys Ile Ser Pro  
425 430 435

Ser Gly Asp Ser Ser Glu Val Gly Phe Cys Ser Asn Ala Arg Thr  
440 445 450

Ser Val Glu Ser Tyr Glu Pro Gln Val Leu Glu Gln Leu His Tyr  
455 460 465

Phe Arg Tyr Asp Lys Tyr Ala Arg Ser Cys Arg Phe Lys Asn Lys  
470 475 480

Glu Ala Ser Phe Met Ser Val Asn Glu Ser Cys Tyr Lys Tyr Gly  
485 490 495

Gln Thr Leu Asp Leu Ser Lys Asn Ser Ile Phe Phe Val Lys Ser  
500 505 510

Ser Asp Phe Gln His Leu Ser Phe Leu Lys Cys Leu Asn Leu Ser  
515 520 525

Gly Asn Leu Ile Ser Gln Thr Leu Asn Gly Ser Glu Phe Gln Pro  
530 535 540



Leu Ala Glu Leu Arg Tyr Leu Asp Phe Ser Asn Asn Arg Leu Asp  
545 550 555

Leu Leu His Ser Thr Ala Phe Glu Glu Leu His Lys Leu Glu Val  
560 565 570

Leu Asp Ile Ser Ser Asn Ser His Tyr Phe Gln Ser Glu Gly Ile  
575 580 585

Thr His Met Leu Asn Phe Thr Lys Asn Leu Lys Val Leu Gln Lys  
590 595 600

Leu Met Met Asn Asp Asn Asp Ile Ser Ser Ser Thr Ser Arg Thr  
605 610 615

Met Glu Ser Glu Ser Leu Arg Thr Leu Glu Phe Arg Gly Asn His  
620 625 630

Leu Asp Val Leu Trp Arg Glu Gly Asp Asn Arg Tyr Leu Gln Leu  
635 640 645

Phe Lys Asn Leu Leu Lys Leu Glu Glu Leu Asp Ile Ser Lys Asn  
650 655 660

Ser Leu Ser Phe Leu Pro Ser Gly Val Phe Asp Gly Met Pro Pro  
665 670 675

Asn Leu Lys Asn Leu Ser Leu Ala Lys Asn Gly Leu Lys Ser Phe  
680 685 690

Ser Trp Lys Lys Leu Gln Cys Leu Lys Asn Leu Glu Thr Leu Asp  
695 700 705

Leu Ser His Asn Gln Leu Thr Thr Val Pro Glu Arg Leu Ser Asn  
710 715 720

Cys Ser Arg Ser Leu Lys Asn Leu Ile Leu Lys Asn Asn Gln Ile  
725 730 735

Arg Ser Leu Thr Lys Tyr Phe Leu Gln Asp Ala Phe Gln Leu Arg  
740 745 750

Tyr Leu Asp Leu Ser Ser Asn Lys Ile Gln Met Ile Gln Lys Thr  
755 760 765

Ser Phe Pro Glu Asn Val Leu Asn Asn Leu Lys Met Leu Leu Leu  
770 775 780

His His Asn Arg Phe Leu Cys Thr Cys Asp Ala Val Trp Phe Val  
785 790 795

Trp Trp Val Asn His Thr Glu Val Thr Ile Pro Tyr Leu Ala Thr  
800 805 810

Asp Val Thr Cys Val Gly Pro Gly Ala His Lys Gly Gln Ser Val  
815 820 825

Ile Ser Leu Asp Leu Tyr Thr Cys Glu Leu Asp Leu Thr Asn Leu  
830 835 840

Ile Leu Phe Ser Leu Ser Ile Ser Val Ser Leu Phe Leu Met Val  
845 850 855

Met Met Thr Ala Ser His Leu Tyr Phe Trp Asp Val Trp Tyr Ile  
860 865 870

Tyr His Phe Cys Lys Ala Lys Ile Lys Gly Tyr Gln Arg Leu Ile  
875 880 885

Ser Pro Asp Cys Cys Tyr Asp Ala Phe Ile Val Tyr Asp Thr Lys  
890 895 900

Asp Pro Ala Val Thr Glu Trp Val Leu Ala Glu Leu Val Ala Lys  
905 910 915

Leu Glu Asp Pro Arg Glu Lys His Phe Asn Leu Cys Leu Glu Glu  
920 925 930

Arg Asp Trp Leu Pro Gly Gln Pro Val Leu Glu Asn Leu Ser Gln  
935 940 945

Ser Ile Gln Leu Ser Lys Lys Thr Val Phe Val Met Thr Asp Lys  
950 955 960

Tyr Ala Lys Thr Glu Asn Phe Lys Ile Ala Phe Tyr Leu Ser His  
965 970 975

Gln Arg Leu Met Asp Glu Lys Val Asp Val Ile Ile Leu Ile Phe  
980 985 990

Leu Glu Lys Pro Phe Gln Lys Ser Lys Phe Leu Gln Leu Arg Lys  
995 1000 1005

Arg Leu Cys Gly Ser Ser Val Leu Glu Trp Pro Thr Asn Pro Gln  
1010 1015 1020

Ala His Pro Tyr Phe Trp Gln Cys Leu Lys Asn Ala Leu Ala Thr  
1025 1030 1035

Asp Asn His Val Ala Tyr Ser Gln Val Phe Lys Glu Thr Val  
1040 1045

<210> 497  
<211> 4199  
<212> DNA  
<213> Homo sapiens

<400> 497  
gggtaccatt ctgcgctgct gcaagttacg gaatgaaaa ttagaacaac 50  
agaaacatgg aaaacatggt ccttcagtcg tcaatgctga cctgcatttt 100  
cctgctaata tctggttctt gtgagttatg cgccgaagaa aatttttcta 150  
gaagctatcc ttgtgatgag aaaaagcaaa atgactcagt tattgcagag 200  
tgcagcaatc gtcgactaca ggaagttccc caaacggtgg gcaaatatgt 250  
gacagaacta gacctgtctg ataatttcat cacacacata acgaatgaat 300  
catttcaagg gctgcaaaaat ctactaaaa taaatctaaa ccacaacccc 350  
aatgtacagc accagaacgg aaatcccggg atacaatcaa atggcttgaa 400  
tatcacagac ggggcattcc tcaacctaaa aaacctaaagg gagttactgc 450  
ttgaagacaa ccagttaccc caaataccct ctggtttgcc agagtctttg 500  
acagaactta gtctaattca aaacaatata tacaacataa ctaaagaggg 550  
catttcaaga cttataaact tgaaaaatct ctatttgccc tggactgct 600  
atttaacaa agtttgcgag aaaactaaca tagaagatgg agtatttgaa 650  
acgctgacaa atttgaggtt gctatcacta tctttcaatt ctctttcaca 700

cgTgcaccc aaactgcaa gtcacctacg caaactttt ctgagcaaca 750  
cccagatcaa atacattagt gaagaagatt tcaaggatt gataaatta 800  
acattactag atttaagcgg gaactgtccg aggtgcttca atgccccatt 850  
tccatgctg ccttggatg gtgggtctt aattaatata gatcgtttg 900  
ctttcaaaa ctgacccaa cttcgatacc taaacctctc tagcacttc 950  
ctcaggaaga ttaatgctg ctggtttaa aatagcctc atctgaaggt 1000  
gctggatctt gaattcaact atttagtggg agaaatagtc tctggggcat 1050  
tttaacgat gctgccccg ttagaaatac ttgactgtc tttaactat 1100  
ataaagggga gttatccaca gcatattaat attccagaa acttctctaa 1150  
actttgtct ctacgggcat tgcatttaag aggttatgtg ttccaggaac 1200  
tcagagaaga tgattccag cccctgatgc agcttccaaa ctatcgact 1250  
atcaactgg gtattaattt tattaagcaa atcgattca aactttcca 1300  
aaatttctcc aatctggaaa ttattactt gtcagaaaac agaatacac 1350  
cgttggtaaa agataccgg cagagttatg caaatagttc ctctttcaa 1400  
cgtcatatcc ggaaacgacg ctcaacagat ttgagttg acccacattc 1450  
gaactttat cattcaccc gtccttaat aaagccaca tgtgctgctt 1500  
atggaaaagc cttagattta agcctcaaca gtattttctt cattgggcca 1550  
aaccaattg aaaacttcc tgacattgcc tgtttaaact tgctgcaaa 1600  
tagcaatgct caagtgtta gtggaactga atttcagcc attctcatg 1650  
tcaaatattt ggattgaca aacaatagac tagacttga taatgctagt 1700  
gctcttactg aattgtccga cttggaagtt ctgatctca gctataattc 1750  
acactattc agaatagcag gcgtaacaca tcactagaa ttattcaaa 1800  
atttcacaaa tctaaaagt taaactga gccacaaca catttatact 1850

ttaacagata agtataacct ggaaagcaag tccctggtag aattagttt 1900  
cagtggcaat cgccttgaca tttgtggaa tgatgatgac aacaggtata 1950  
tctccattt caaaggtctc aagaatctga cacgtctgga tttatccct 2000  
aataggctga agcacatccc aatgaagca ttccttaatt tgccagcgag 2050  
tctcactgaa ctacatataa atgataatat gttaaagttt ttaactgga 2100  
cattactcca gcagtttct cgtctcgagt tgcttgactt acgtggaac 2150  
aaactactct ttttaactga tagcctatct gactttacat ctcccttcg 2200  
gacactgctg ctgagtcata acaggattc ccacctacc tctggcttc 2250  
tttctgaagt cagtagtctg aagcacctcg atttaagttc caatctgta 2300  
aaaacaatca acaaatccgc acttgaact aagaccacca ccaattatc 2350  
tatgttgaa ctacacggaa accccttga atgcacctgt gacattggag 2400  
attccgaag atggatggat gaacatctga atgtcaaat tcccagactg 2450  
gtagatgtca tttgtccag tctggggat caaagaggga agagtattgt 2500  
gagtctggag ctaacaactt gtgttcaga tgtcactgca gtgatattat 2550  
ttttctcac gtctttatc accaccatgg ttatgttggc tgccttggt 2600  
caccattgt tttactggga tgtttggtt atatataatg tgtgttagc 2650  
taaggtaaaa ggctacaggt ctctttcac atcccaaact ttctatgatg 2700  
cttacattc ttatgacacc aaagatgcct ctgttactga ctgggtgata 2750  
aatgagctgc gctaccacct tgaagagagc cgagacaaaa acgttctcct 2800  
ttgtctagag gagagggatt gggacccggg attggccatc atcgacaacc 2850  
tcatgcagag catcaaccaa agcaagaaaa cagtattgt ttaaccaa 2900  
aaatatcaa aaagctggaa ctttaaaca gcttttact tggcttgca 2950  
gaggctaag gatgagaaca tggatgtgat tatattatc ctgctggagc 3000

cagtgtaca gcattctcag tatttgaggc tacggcagcg gatctgtaag 3050  
agctccatcc tccagtggcc tgacaacccg aaggcagaag gcttgtttg 3100  
gcaaactctg agaaatgtgg tcttgactga aaatgattca cggataaca 3150  
atatgtatgt cgattccatt aagcaatact aactgacgtt aagcatgat 3200  
ttcgcgcat aataaagatg caaaggaatg acatttctgt attagttatc 3250  
tattgctatg taacaaatta tcccaaaact tagtggttta aaacaacaca 3300  
ttgctggcc cacagtttt gagggtcagg agtccaggcc cagcataact 3350  
gggtcctctg ctgagggtgt ctgagaggct gcaatgtagg tgttcaccag 3400  
agacatagge atcactgggg tcacactcat gtggttgttt tctggattca 3450  
attcctcctg ggctattggc caaaggctat actcatgtaa gccatgcgag 3500  
cctctccac aaggcagcgtt gcttcatcag agctagcaaa aaagagaggt 3550  
tgctagcaag atgaagtcac aatctttgt aatcgaatca aaaaagtgat 3600  
atctcatcac ttggccata ttctattgt tagaagtaaa ccacaggtcc 3650  
caccagctcc atgggagtga ccacctcagt ccagggaaaa cagctgaaga 3700  
ccaagatgtt gagctctgat tgcttcagtt ggtcatcaac tatttcct 3750  
tgactgctgt cctgggatgg cctgctatct tgatgataga ttgtaatat 3800  
caggaggcag ggatcactgt ggaccatctt agcagttgac ctaacacatc 3850  
ttctttcaa tatctaagaa ctttgccac tgtgactaat ggtcctaata 3900  
ttaagctgtt gtttatatt atcatatc tatggctaca tggttatatt 3950  
atgctgtggt tgcgtcggg ttatttaca gttgcttta caaatattg 4000  
ctgtaacatt tgacttctaa ggttagatg ccatttaaga actgagatgg 4050  
atagcttita aagcatctt tactcttac catttttaa aagtatgcag 4100  
ctaaattcga agcttttgg ctatattgtt aattgccatt gctgtaaact 4150

ttaaatgaa tgaataaaaa tgtttcattt tacaaaaaaa aaaaaaaaa 4199

<210> 498

<211> 1041

<212> PRT

<213> Homo sapiens

<400> 498

Met Glu Asn Met Phe Leu Gln Ser Ser Met Leu Thr Cys Ile Phe

1 5 10 15

Leu Leu Ile Ser Gly Ser Cys Glu Leu Cys Ala Glu Glu Asn Phe

20 25 30

Ser Arg Ser Tyr Pro Cys Asp Glu Lys Lys Gln Asn Asp Ser Val

35 40 45

Ile Ala Glu Cys Ser Asn Arg Arg Leu Gln Glu Val Pro Gln Thr

50 55 60

Val Gly Lys Tyr Val Thr Glu Leu Asp Leu Ser Asp Asn Phe Ile

65 70 75

Thr His Ile Thr Asn Glu Ser Phe Gln Gly Leu Gln Asn Leu Thr

80 85 90

Lys Ile Asn Leu Asn His Asn Pro Asn Val Gln His Gln Asn Gly

95 100 105

Asn Pro Gly Ile Gln Ser Asn Gly Leu Asn Ile Thr Asp Gly Ala

110 115 120

Phe Leu Asn Leu Lys Asn Leu Arg Glu Leu Leu Leu Glu Asp Asn

125 130 135

Gln Leu Pro Gln Ile Pro Ser Gly Leu Pro Glu Ser Leu Thr Glu

140 145 150

Leu Ser Leu Ile Gln Asn Asn Ile Tyr Asn Ile Thr Lys Glu Gly

155 160 165

Ile Ser Arg Leu Ile Asn Leu Lys Asn Leu Tyr Leu Ala Trp Asn

170 175 180

Cys Tyr Phe Asn Lys Val Cys Glu Lys Thr Asn Ile Glu Asp Gly

185

190

195

Val Phe Glu Thr Leu Thr Asn Leu Glu Leu Leu Ser Leu Ser Phe  
200 205 210

Asn Ser Leu Ser His Val Pro Pro Lys Leu Pro Ser Ser Leu Arg  
215 220 225

Lys Leu Phe Leu Ser Asn Thr Gln Ile Lys Tyr Ile Ser Glu Glu  
230 235 240

Asp Phe Lys Gly Leu Ile Asn Leu Thr Leu Leu Asp Leu Ser Gly  
245 250 255

Asn Cys Pro Arg Cys Phe Asn Ala Pro Phe Pro Cys Val Pro Cys  
260 265 270

Asp Gly Gly Ala Ser Ile Asn Ile Asp Arg Phe Ala Phe Gln Asn  
275 280 285

Leu Thr Gln Leu Arg Tyr Leu Asn Leu Ser Ser Thr Ser Leu Arg  
290 295 300

Lys Ile Asn Ala Ala Trp Phe Lys Asn Met Pro His Leu Lys Val  
305 310 315

Leu Asp Leu Glu Phe Asn Tyr Leu Val Gly Glu Ile Val Ser Gly  
320 325 330

Ala Phe Leu Thr Met Leu Pro Arg Leu Glu Ile Leu Asp Leu Ser  
335 340 345

Phe Asn Tyr Ile Lys Gly Ser Tyr Pro Gln His Ile Asn Ile Ser  
350 355 360

Arg Asn Phe Ser Lys Leu Leu Ser Leu Arg Ala Leu His Leu Arg  
365 370 375

Gly Tyr Val Phe Gln Glu Leu Arg Glu Asp Asp Phe Gln Pro Leu  
380 385 390

Met Gln Leu Pro Asn Leu Ser Thr Ile Asn Leu Gly Ile Asn Phe  
395 400 405

Ile Lys Gln Ile Asp Phe Lys Leu Phe Gln Asn Phe Ser Asn Leu



410            415            420

Glu Ile Ile Tyr Leu Ser Glu Asn Arg Ile Ser Pro Leu Val Lys  
425            430            435

Asp Thr Arg Gln Ser Tyr Ala Asn Ser Ser Ser Phe Gln Arg His  
440            445            450

Ile Arg Lys Arg Arg Ser Thr Asp Phe Glu Phe Asp Pro His Ser  
455            460            465

Asn Phe Tyr His Phe Thr Arg Pro Leu Ile Lys Pro Gln Cys Ala  
470            475            480

Ala Tyr Gly Lys Ala Leu Asp Leu Ser Leu Asn Ser Ile Phe Phe  
485            490            495

Ile Gly Pro Asn Gln Phe Glu Asn Leu Pro Asp Ile Ala Cys Leu  
500            505            510

Asn Leu Ser Ala Asn Ser Asn Ala Gln Val Leu Ser Gly Thr Glu  
515            520            525

Phe Ser Ala Ile Pro His Val Lys Tyr Leu Asp Leu Thr Asn Asn  
530            535            540

Arg Leu Asp Phe Asp Asn Ala Ser Ala Leu Thr Glu Leu Ser Asp  
545            550            555

Leu Glu Val Leu Asp Leu Ser Tyr Asn Ser His Tyr Phe Arg Ile  
560            565            570

Ala Gly Val Thr His His Leu Glu Phe Ile Gln Asn Phe Thr Asn  
575            580            585

Leu Lys Val Leu Asn Leu Ser His Asn Asn Ile Tyr Thr Leu Thr  
590            595            600

Asp Lys Tyr Asn Leu Glu Ser Lys Ser Leu Val Glu Leu Val Phe  
605            610            615

Ser Gly Asn Arg Leu Asp Ile Leu Trp Asn Asp Asp Asp Asn Arg  
620            625            630

Tyr Ile Ser Ile Phe Lys Gly Leu Lys Asn Leu Thr Arg Leu Asp

635            640            645

Leu Ser Leu Asn Arg Leu Lys His Ile Pro Asn Glu Ala Phe Leu  
650            655            660

Asn Leu Pro Ala Ser Leu Thr Glu Leu His Ile Asn Asp Asn Met  
665            670            675

Leu Lys Phe Phe Asn Trp Thr Leu Leu Gln Gln Phe Pro Arg Leu  
680            685            690

Glu Leu Leu Asp Leu Arg Gly Asn Lys Leu Leu Phe Leu Thr Asp  
695            700            705

Ser Leu Ser Asp Phe Thr Ser Ser Leu Arg Thr Leu Leu Leu Ser  
710            715            720

His Asn Arg Ile Ser His Leu Pro Ser Gly Phe Leu Ser Glu Val  
725            730            735

Ser Ser Leu Lys His Leu Asp Leu Ser Ser Asn Leu Leu Lys Thr  
740            745            750

Ile Asn Lys Ser Ala Leu Glu Thr Lys Thr Thr Thr Lys Leu Ser  
755            760            765

Met Leu Glu Leu His Gly Asn Pro Phe Glu Cys Thr Cys Asp Ile  
770            775            780

Gly Asp Phe Arg Arg Trp Met Asp Glu His Leu Asn Val Lys Ile  
785            790            795

Pro Arg Leu Val Asp Val Ile Cys Ala Ser Pro Gly Asp Gln Arg  
800            805            810

Gly Lys Ser Ile Val Ser Leu Glu Leu Thr Thr Cys Val Ser Asp  
815            820            825

Val Thr Ala Val Ile Leu Phe Phe Phe Thr Phe Phe Ile Thr Thr  
830            835            840

Met Val Met Leu Ala Ala Leu Ala His His Leu Phe Tyr Trp Asp  
845            850            855

Val Trp Phe Ile Tyr Asn Val Cys Leu Ala Lys Val Lys Gly Tyr

860            865            870

Arg Ser Leu Ser Thr Ser Gln Thr Phe Tyr Asp Ala Tyr Ile Ser  
875            880            885

Tyr Asp Thr Lys Asp Ala Ser Val Thr Asp Trp Val Ile Asn Glu  
890            895            900

Leu Arg Tyr His Leu Glu Glu Ser Arg Asp Lys Asn Val Leu Leu  
905            910            915

Cys Leu Glu Glu Arg Asp Trp Asp Pro Gly Leu Ala Ile Ile Asp  
920            925            930

Asn Leu Met Gln Ser Ile Asn Gln Ser Lys Lys Thr Val Phe Val  
935            940            945

Leu Thr Lys Lys Tyr Ala Lys Ser Trp Asn Phe Lys Thr Ala Phe  
950            955            960

Tyr Leu Ala Leu Gln Arg Leu Met Asp Glu Asn Met Asp Val Ile  
965            970            975

Ile Phe Ile Leu Leu Glu Pro Val Leu Gln His Ser Gln Tyr Leu  
980            985            990

Arg Leu Arg Gln Arg Ile Cys Lys Ser Ser Ile Leu Gln Trp Pro  
995            1000            1005

Asp Asn Pro Lys Ala Glu Gly Leu Phe Trp Gln Thr Leu Arg Asn  
1010            1015            1020

Val Val Leu Thr Glu Asn Asp Ser Arg Tyr Asn Asn Met Tyr Val  
1025            1030            1035

Asp Ser Ile Lys Gln Tyr  
1040

<210> 499

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 499  
taaagaccca gctgtgaccg 20

<210> 500  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 500  
atccatgagc ctctgatggg 20

<210> 501  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 501  
atttatgtct cgaggaaagg gactggttac cagggcagcc agttc 45

<210> 502  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 502  
gccgagacaa aaacgttctc c 21

<210> 503  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 503

catccatggt ctcatccatt agcc 24

<210> 504

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 504

tcgacaacct catgcagagc atcaacaaa gcaagaaaac agtatt 46

<210> 505

<211> 1738

<212> DNA

<213> Homo sapiens

<400> 505

ccaggtccaa ctgcacctcg gttctatcga ttgaattccc cggggatcct 50

ctagagatcc ctgcacctcg acccacgcgt ccgccaagct ggcctgcac 100

gggtgcaagg gaggctctg tggacaggcc aggcaggtgg gcctcaggag 150

gtgcctccag gcggccagtg ggcctgaggc cccagcaagg gctagggtcc 200

atctccagtc ccaggacaca gcagcggcca ccatggccac gcctgggctc 250

cagcagcatc agcagcccc aggaccgggg aggcacaggt ggccccacc 300

accggagga gcagctctg cccctgtccg ggggatgact gattctctc 350

cgccaggcca cccagaggag aaggccacc gcctggagg cacaggccat 400

gaggggtct caggaggtgc tgctgatgtg gcttctggtg ttggcagtgg 450

gcggcacaga gcacgcctac cgccccggcc gtaggggtgtg tgctgtccgg 500

gctcacgggg accctgtctc cgagtcgttc gtgcagcgtg tgtaccagcc 550

cttctcacc acctgcgacg ggcaccgggc ctgcagcacc taccgaacca 600

tctataggac cgctaccgc cgagccctg ggctggcccc tgccaggcct 650

cgctacgct gctgccccg ctggaagagg accagcgggc ttctggggc 700  
ctgtggagca gcaatatgcc agccgccatg ccggaacgga gggagctgtg 750  
tccagcctgg ccgtgccgc tgcctgcag gatggcgggg tgacacttc 800  
cagtcagatg tggatgaatg cagtgtagg agggcggct gtccccagc 850  
ctgcatcaac accgccgca gttactggtg ccagtgttg gaggggcaca 900  
gcctgtctgc agacgtaca ctctgtgtgc ccaagggagg gccccagc 950  
gtggcccca acccgacagg agtggacagt gcaatgaagg aagaagtga 1000  
gaggtgcag tccaggtgg acctgctgga ggagaagctg cagctgtgc 1050  
tggccccact gcacagcctg gcctgcagg cactggagca tgggtccc 1100  
gaccccgca gcctcctgt gactcctc cagcagctg gccgcatga 1150  
ctccctgagc gagcagattt ccttctgga ggagcagctg gggctctgt 1200  
cctgcaagaa agactcgtga ctgccagc cccaggtg gactgagccc 1250  
ctcacgccgc cctgcagccc ccattgccct gcccaacatg ctgggggtcc 1300  
agaagccacc tcgggtgac tgagcgaag gccaggcagg gccttctcc 1350  
tcttctct cccctctc gggaggctcc ccagacctg gcatgggatg 1400  
ggctgggatc ttctgtga atccacctt ggctacccc acctggcta 1450  
ccccaacggc atccaagc caggtggcc ctgagctgag ggaaggtacg 1500  
agctccctgc tggagcctgg gacctggc acaggccagg cagcccggag 1550  
gtgggtggg gcctcagtg gggctgtgc ctgacccca gcacaataaa 1600  
aatgaaact gaaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaaaa 1650  
aaagggcgc cgcgactcta gactgacct gcagaagctt ggccgcatg 1700  
gccaactg tttattgcag cttataatg ttacaaat 1738

<211> 273

<212> PRT

<213> Homo sapiens

<400> 506

Met Arg Gly Ser Gln Glu Val Leu Leu Met Trp Leu Leu Val Leu  
1 5 10 15

Ala Val Gly Gly Thr Glu His Ala Tyr Arg Pro Gly Arg Arg Val  
20 25 30

Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val  
35 40 45

Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg  
50 55 60

Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg  
65 70 75

Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro  
80 85 90

Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala  
95 100 105

Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro  
110 115 120

Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln  
125 130 135

Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln  
140 145 150

Arg Cys Ile Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu  
155 160 165

Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly  
170 175 180

Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala  
185 190 195

Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu

200	205	210
Glu Glu Lys Leu Gln Leu Val Leu Ala Pro Leu His Ser Leu Ala		
215	220	225
Ser Gln Ala Leu Glu His Gly Leu Pro Asp Pro Gly Ser Leu Leu		
230	235	240
Val His Ser Phe Gln Gln Leu Gly Arg Ile Asp Ser Leu Ser Glu		
245	250	255
Gln Ile Ser Phe Leu Glu Glu Gln Leu Gly Ser Cys Ser Cys Lys		
260	265	270

Lys Asp Ser

<210> 507

<211> 1700

<212> DNA

<213> Homo sapiens

<400> 507

gccaggcagg tggcctcag gaggtgcctc caggcggcca gtggcctga 50

ggccccagca agggctaggg tccatctcca gtcccaggac acagcagcgg 100

ccaccatggc cacgcctggg ctccagcagc atcagagcag ccctgtggt 150

tggcagcaaa gttagcttg gctgggcccg ctgtgagggg cttcgcgcta 200

cgcctgcgg tgtcccagg gctgaggtct cctcatcttc tcctagcag 250

tggatgagca acccaacggg ggcccgggga ggggaactgg ccccagagga 300

gaggaacccc aaagccacat ctgtagccag gatgagcagt gtgaatccag 350

gcagccccca ggaccgggga ggcacaggtg gccccacca cccggaggag 400

cagctcctgc cctgtccgg gggatgactg attctctcc gccaggccac 450

ccagaggaga aggccacccc gcctggaggc acaggccatg aggggctctc 500

aggagtgct gctgatgtgg cttctggtgt tggcagtggg cggcacagag 550



cacgcctacc ggcccggccg tagggtgtgt gctgtccggg ctcacgggga 600  
ccctgtctcc gagtcgttg tgcagcgtgt gtaccagccc ttcctacca 650  
cctgcgacgg gcaccgggcc tgcagcacct accgaacat ctataggacc 700  
gcctaccgcc gcagccctgg gctggcccct gccaggcctc gctacgcgtg 750  
ctgccccggc tggaagagga ccagcgggct tcctggggcc tgtggagcag 800  
caatatgcca gccgcatgc cggaacggag ggagctgtgt ccagcctggc 850  
cgctgccgt gcctgcagg atggcggggt gacactgcc agtcagatgt 900  
ggatgaatgc agtgctagga ggggcggctg tcccagcgc tgcataaca 950  
ccgccggcag ttactggtgc cagtgttggg aggggcacag cctgtctgca 1000  
gacggtacac tctgtgtgcc caaggaggg cccccaggg tggccccaa 1050  
cccacagga gtggacagt caatgaagga agaagtgcag aggctgcagt 1100  
ccagggtgga cctgctggag gagaagctgc agctggtgct ggccccactg 1150  
cacagcctgg cctcgcaggc actggagcat gggctcccgg accccggcag 1200  
cctcctggtg cactcctcc agcagctcgg ccgcatcgac tcctgagcg 1250  
agcagattc ettctggag gagcagctgg ggtcctgctc ctgcaagaaa 1300  
gactcgtgac tgcccagcgc tccaggctgg actgagcccc tcacgccgcc 1350  
ctgcagcccc catgccctg cccaacatgc tgggggtcca gaagccact 1400  
cggggtgact gagcgggaagg ccaggcaggg cttctctct cttctctc 1450  
cccttctcg ggaggctccc cagaccctgg catgggatgg gctgggatct 1500  
tctctgtgaa tccaccctg gctaccccc ccttggtac cccaacggca 1550  
tccaaggcc aggtggacc tcagctgagg gaaggtacga gctccctgct 1600  
ggagcctggg acccatggca caggccaggc agcccggagg ctgggtgggg 1650  
cctcagtggg ggctgctgcc tgacccccag cacaataaaa atgaaactg 1700

<210> 508  
<211> 1538  
<212> DNA  
<213> Homo sapiens

<400> 508  
cccacgcgtc cgaagctggc cctgcacggc tgcaagggag gctcctgtgg 50  
acaggccagg caggtgggcc tcaggaggtg cctccaggcg gccagtgggc 100  
ctgaggcccc agcaagggtc aggttccatc tccagtccca ggacacagca 150  
gcgccacca tggccacgcc tgggtccag cagcatcagc agccccagg 200  
accggggagg cacaggtggc cccaccacc cggaggagca gctcctgcc 250  
ctgtccgggg gatgactgat tctctccgc caggccacc agaggagaag 300  
gccaccccg ctggaggcac aggcatgag gggctctcag gaggtgctgc 350  
tgatgtggct tctggtgtg gcagtgggcg gcacagagca cgctaccgg 400  
cccggccgta ggggtgtgct tgcggggct cacggggacc ctgtctccga 450  
gtcgttcgtg cagcgtgtg accagccctt ctcaccacc tgcacgggc 500  
accgggcctg cagcacctac cgaacctct ataggaccgc ctaccgccg 550  
agccctgggc tggcccctgc caggcctgc tacgcgtgct gccccggctg 600  
gaagaggacc agcgggcttc ctggggcctg tggagcagca atatgccagc 650  
cgccatgccg gaacggaggg agctgtgtcc agcctggccg ctgccgctgc 700  
cctgcaggat ggcggggtga cacttgccag tcagatgtgg atgaatgcag 750  
tgctaggagg ggcggctgtc cccagcgtg cgtcaacacc gccggcagtt 800  
actggtgccca gtgtgggag gggcacagcc tgtctgcaga cggtaactc 850  
tgtgtgccca agggagggcc cccagggtg gcccacaacc cgacaggagt 900  
ggacagtgca atgaaggaag aagtgcagag gctgcagtcc aggggtggacc 950

tgctggagga gaagctgcag ctggtgctgg cccactgca cagcctggcc 1000  
tcgcaggcac tggagcatgg gctcccggac cccggcagcc tctggtgca 1050  
ctcctccag cagctggccc gcatgactc cctgagcgag cagatttct 1100  
tctggagga gcagctgggg tctgtctct gcaagaaaga ctcgtgactg 1150  
cccagcggcc caggctggac tgagcccctc acgccgcct gcagcccca 1200  
tgcccctgcc caacatgctg ggggtccaga agccacctcg ggggtactga 1250  
gcggaaggcc aggcagggcc ttctctctt tctctctccc ctctctggg 1300  
aggctcccca gaccctggca tgggatgggc tgggatcttc tctgtgaatc 1350  
caccctggc taccaccacc ctggctaccc caacggcatc ccaaggccag 1400  
gtgggccctc agctgaggga aggtacgagc tcctgctgg agcctggggac 1450  
ccatggcaca ggccaggcag cccggaggct ggggtggggcc tcagtggggg 1500  
ctgctgcctg accccagca caataaaaat gaaacgtg 1538

<210> 509

<211> 273

<212> PRT

<213> Homo sapiens

<400> 509

Met Arg Gly Ser Gln Glu Val Leu Leu Met Trp Leu Leu Val Leu

1 5 10 15

Ala Val Gly Gly Thr Glu His Ala Tyr Arg Pro Gly Arg Arg Val

20 25 30

Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val

35 40 45

Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg

50 55 60

Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg

65 70 75

Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro  
80 85 90

Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala  
95 100 105

Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro  
110 115 120

Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln  
125 130 135

Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln  
140 145 150

Arg Cys Val Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu  
155 160 165

Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly  
170 175 180

Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala  
185 190 195

Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu  
200 205 210

Glu Glu Lys Leu Gln Leu Val Leu Ala Pro Leu His Ser Leu Ala  
215 220 225

Ser Gln Ala Leu Glu His Gly Leu Pro Asp Pro Gly Ser Leu Leu  
230 235 240

Val His Ser Phe Gln Gln Leu Gly Arg Ile Asp Ser Leu Ser Glu  
245 250 255

Gln Ile Ser Phe Leu Glu Glu Gln Leu Gly Ser Cys Ser Cys Lys  
260 265 270

Lys Asp Ser

<210> 510

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 510

tggagcagca atatgccagc c 21

<210> 511

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 511

tttccactc ctgtcgggtt gg 22

<210> 512

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 512

ggtgacactt gccagtcaga tgtggatgaa tgcagtgcta ggaggg 46

<210> 513

<211> 2690

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 2039-2065

<223> unknown base

<400> 513

ggttgccaca gctggttag ggccccgacc actggggccc cttgcagga 50

ggagacagcc tcccggccc gggaggacaa gtcgctgcca ctttgctg 100

ccgacgtgat tccctgggac ggtccgttc ctgccgtcag ctgccggccg 150  
agttgggtct ccgtgttca ggccggctcc cccttctgg tctccctct 200  
cccgtgggc cggttatcg ggaggagatt gtctccagg gctagcaatt 250  
ggacttttga tgatgttga cccagcggca ggaatagcag gcaacgtgat 300  
ttcaaagctg ggctcagcct ctgtttctc tctcgtgtaa tcgaaaacc 350  
catttggag caggaattcc aatcatgtct gtgatggtgg tgagaaagaa 400  
ggtgacacgg aatgggaga aactcccagg caggaacacc tttgctgtg 450  
atggccgct catgatggcc cggcaaaagg gcatttcta cctgaccctt 500  
ttctcatcc tggggacatg tacactctc ttcgccttg agtgcgcta 550  
cctggtgtt cagctgtctc ctgcatccc tgtattgct gccatgctct 600  
tcctttctc catggctaca ctgttgagga ccagctcag tgaccctgga 650  
gtgattctc gggcgtacc agatgaagca gcttcatag aatggagat 700  
agaagctacc aatggtcgg tgccccaggg ccagcgacca ccgcctcga 750  
tcaagaattt ccagataaac aaccagattg tgaactgaa atactgttac 800  
acatgcaaga tcttccggcc tccccggcc tccattgca gcatctgta 850  
caactgtgtg gagcgttcg accatcactg cccctgggtg gggaattgtg 900  
ttgaaagag gaactaccgc tacttctacc tcttcatct ttctctcc 950  
ctctcaciaa tctatgtctt cgccttcaac atcgtctatg tggccctcaa 1000  
atctttgaaa attggcttct tggagacatt gaaagaaact cctggaactg 1050  
ttctagaagt cctcattgc ttctttacac tctggtccgt cgtgggactg 1100  
actggatttc atacttctc cgtggctctc aaccagacaa ccaatgaaga 1150  
catcaaagga tcatggacag ggaagaatcg cgtccagaat ccctacagcc 1200  
atggcaatat tgtgaagaac tgctgtgaag tgctgtgtgg ccccttgccc 1250

cccagtgtgc tggatcgaag gggatatttg cactggagg aaagtgaag 1300  
tcgacctccc agtactcaag agaccagtag cagcctcttg ccacagagcc 1350  
cagccccac agaacacctg aactcaaatg agatgccgga ggacagcagc 1400  
actcccgaag agatgccacc tccagagccc ccagagccac cacaggagc 1450  
agctgaagct gagaagtagc ctatctatgg aagagacttt tgtttgttt 1500  
taattagggc tatgagagat ttcaggtgag aagttaaacc tgagacagag 1550  
agcaagtaag ctgtcccttt taactgtttt tctttgtct ttagtcacc 1600  
agttgcacac tggcatttc ttgctgaag ctttttaaa ttctgaact 1650  
caaggcagtg gcagaagatg tcagtcacct ctgataactg gaaaaatgg 1700  
tctctgggc cctggcactg gttctccatg gcctcagcca cagggtccc 1750  
ttggacccc tctctccct ccagatccca gcctcctgc ttggggtcac 1800  
tggctcatt ctggggctaa aagttttga gactggctca aatcctcca 1850  
agctgctgca cgtgctgagt ccagaggcag tcacagagac ctctggccag 1900  
gggatcctaa ctgggttctt ggggtctca ggactgaaga ggaggagag 1950  
tggggtcaga agattctct gccaccaag tgccagcatt gccacaaat 2000  
ccttttagga atgggacagg tacctccac ttgtgtann nnnnnnnnn 2050  
nnnnnnnnnn nnnnntgtt ttcctttg actcctgctc ccattaggag 2100  
caggaatggc agtaataaaa gctgcactt tggtcattc tttcctcag 2150  
aggaagccc agtgcactt taaactat ccctcagac tcctgtgtg 2200  
aggcctgcag aggcctgaa tgcacaaatg gaaaccaag gcacagagag 2250  
gctcctctc cctcctctc ccccgatgt acctcaaaa aaaaaaaaaat 2300  
gctaaccagt tctccatta agcctcggct gactgagga aagcccagca 2350  
ctgctgcct ctcgggtaac tcaccctaag gcctcggccc acctctggct 2400

atggtaacca cactgggggc ttctccaag ccccgctctt ccagcacttc 2450

caccggcaga gtcccagagc cacttcaccc tgggggtggg ctgtggcccc 2500

cagtcagctc tgctcaggac ctgctctatt tcaggaaga agatttatgt 2550

attatatgtg gctatatttc ctagagcacc tgtgttttcc ttttctaag 2600

ccagggtcct gtctggatga cttatgcbgt gggggagtgt aaaccggaac 2650

tttcatcta tttgaaggcg attaaactgt gtctaagca 2690

<210> 514

<211> 364

<212> PRT

<213> Homo sapiens

<400> 514

Met Ser Val Met Val Val Arg Lys Lys Val Thr Arg Lys Trp Glu

1 5 10 15

Lys Leu Pro Gly Arg Asn Thr Phe Cys Cys Asp Gly Arg Val Met

20 25 30

Met Ala Arg Gln Lys Gly Ile Phe Tyr Leu Thr Leu Phe Leu Ile

35 40 45

Leu Gly Thr Cys Thr Leu Phe Phe Ala Phe Glu Cys Arg Tyr Leu

50 55 60

Ala Val Gln Leu Ser Pro Ala Ile Pro Val Phe Ala Ala Met Leu

65 70 75

Phe Leu Phe Ser Met Ala Thr Leu Leu Arg Thr Ser Phe Ser Asp

80 85 90

Pro Gly Val Ile Pro Arg Ala Leu Pro Asp Glu Ala Ala Phe Ile

95 100 105

Glu Met Glu Ile Glu Ala Thr Asn Gly Ala Val Pro Gln Gly Gln

110 115 120

Arg Pro Pro Pro Arg Ile Lys Asn Phe Gln Ile Asn Asn Gln Ile

125 130 135



Val Lys Leu Lys Tyr Cys Tyr Thr Cys Lys Ile Phe Arg Pro Pro  
140 145 150

Arg Ala Ser His Cys Ser Ile Cys Asp Asn Cys Val Glu Arg Phe  
155 160 165

Asp His His Cys Pro Trp Val Gly Asn Cys Val Gly Lys Arg Asn  
170 175 180

Tyr Arg Tyr Phe Tyr Leu Phe Ile Leu Ser Leu Ser Leu Leu Thr  
185 190 195

Ile Tyr Val Phe Ala Phe Asn Ile Val Tyr Val Ala Leu Lys Ser  
200 205 210

Leu Lys Ile Gly Phe Leu Glu Thr Leu Lys Glu Thr Pro Gly Thr  
215 220 225

Val Leu Glu Val Leu Ile Cys Phe Phe Thr Leu Trp Ser Val Val  
230 235 240

Gly Leu Thr Gly Phe His Thr Phe Leu Val Ala Leu Asn Gln Thr  
245 250 255

Thr Asn Glu Asp Ile Lys Gly Ser Trp Thr Gly Lys Asn Arg Val  
260 265 270

Gln Asn Pro Tyr Ser His Gly Asn Ile Val Lys Asn Cys Cys Glu  
275 280 285

Val Leu Cys Gly Pro Leu Pro Pro Ser Val Leu Asp Arg Arg Gly  
290 295 300

Ile Leu Pro Leu Glu Glu Ser Gly Ser Arg Pro Pro Ser Thr Gln  
305 310 315

Glu Thr Ser Ser Ser Leu Leu Pro Gln Ser Pro Ala Pro Thr Glu  
320 325 330

His Leu Asn Ser Asn Glu Met Pro Glu Asp Ser Ser Thr Pro Glu  
335 340 345

Glu Met Pro Pro Pro Glu Pro Pro Glu Pro Pro Gln Glu Ala Ala  
350 355 360

Glu Ala Glu Lys

<210> 515

<211> 255

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 36, 38, 88, 118, 135, 193, 213, 222

<223> unknown base

<400> 515

aaaaccctgt atttttaca atgcaaatac acaatnacc tggaggtctt 50

tgaattaggt attatagga tggagggtt gattttntt cctggaggct 100

ttggcttg gactctnct ttctccaca gacncttcg accatcactg 150

cccctgggtg gggaatttg ttggaaagag gaactaccgc tanttctacc 200

tcttcatcct ttntctccc cncctcaca tctatgtctt cgccttcaac 250

atcgt 255

<210> 516

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 516

caacgtgatt tcaaagctgg gctc 24

<210> 517

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 517  
gcctcgtatc aagaattcc 20

<210> 518  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 518  
agtggaagtc gacctccc 18

<210> 519  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 519  
ctcacctgaa atctctcata gcc 24

<210> 520  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 520  
cgcaaaacc atttgggag caggaattcc aatcatgtct gtgatggtgg 50

<210> 521  
<211> 1679  
<212> DNA  
<213> Homo sapiens

<400> 521  
gttggtcct tcagcaaac agtggattta aatctccttg cacaagcttg 50

agagcaacac aatctatcag gaaagaaaga aagaaaaaaa ccgaacctga 100

caaaaaagaa gaaaaagaag aagaaaaaaa atcatgaaaa ccatccagcc 150  
aaaaatgcac aattctatct cttgggcaat cttcacgggg ctggetgctc 200  
tgtgtctctt ccaaggagtg cccgtgcgca gcggagatgc cacctcccc 250  
aaagctatgg acaacgtgac ggtccggcag ggggagagcg ccaccctcag 300  
gtgcactatt gacaaccggg tcaccgggtt ggcctggcta aaccgcagca 350  
ccatcctcta tgtgggaat gacaagtgtt gcctggatcc tcgctggtc 400  
cttctgagca acacccaac gcagtacagc atcgagatcc agaactgga 450  
tgtgtatgac gagggccctt acactgctc ggtgcagaca gacaaccacc 500  
caaagacctc tagggtccac ctattgtgc aagtatctcc caaattgta 550  
gagatttctt cagatatctc cattaatgaa gggaacaata ttagcctcac 600  
ctgcatagca actggtagac cagagcctac ggttacttg agacacatct 650  
ctcccaaagc ggttgctt gtgagtgaag acgaatactt ggaaattcag 700  
ggcatcacc gggagcagtc aggggactac gactgcagtg cctccaatga 750  
cgtggccgcg cccgtggtac ggagagtaaa ggtcaccgtg aactatccac 800  
catacattc agaagccaag ggtacaggtg tccccgtggg aaaaagggg 850  
aactgcagt gtgaagcctc agcagtcctc tcagcagaat tccagtggta 900  
caagatgac aaaagactga ttgaaggaaa gaaaggggtg aaagtggaaa 950  
acagacctt cctctcaaaa ctcatcttct tcaatgtctc tgaacatgac 1000  
tatgggaact acactgctg ggcctccaac aagctgggcc acaccaatgc 1050  
cagcatcatg ctatttgctc caggcgcctg cagcgaggtg agcaacggca 1100  
cgtcgaggag ggcaggctgc gctggtctgc gcctcttct ggtcttgac 1150  
ctgcttctca aatttgatg tgagtccac tccccacc gggaaaggct 1200  
gccgccacca ccaccacaa cacaacagca atggcaacac cgacagcaac 1250

caatcagata tatacaaag aaattagaag aaacacagcc tcatgggaca 1300  
gaaattgag ggaggggaac aaagaatact ttggggggaa aagagtttta 1350  
aaaaagaat tgaaaattgc cttgcagata ttaggtaca atggagtttt 1400  
ctttcccaa acggaagaa cacagcacac ccggcttga cccactgcaa 1450  
gctgcatcgt gcaacctctt tgggtccagt gtgggcaagg gctcagcctc 1500  
tctgccaca gagtgcctcc acgtggaaca ttctggagct ggccatcca 1550  
aattcaatca gtccatagag acgaacagaa tgagaccttc cggcccaagc 1600  
gtggcgctgc gggcactttg gtgactgtg ccaccacggc gtgtgtgtg 1650  
aaacgtgaaa taaaaagagc aaaaaaaaa 1679

<210> 522  
<211> 344  
<212> PRT  
<213> Homo sapiens

<400> 522  
Met Lys Thr Ile Gln Pro Lys Met His Asn Ser Ile Ser Trp Ala  
1 5 10 15  
Ile Phe Thr Gly Leu Ala Ala Leu Cys Leu Phe Gln Gly Val Pro  
20 25 30  
Val Arg Ser Gly Asp Ala Thr Phe Pro Lys Ala Met Asp Asn Val  
35 40 45  
Thr Val Arg Gln Gly Glu Ser Ala Thr Leu Arg Cys Thr Ile Asp  
50 55 60  
Asn Arg Val Thr Arg Val Ala Trp Leu Asn Arg Ser Thr Ile Leu  
65 70 75  
Tyr Ala Gly Asn Asp Lys Trp Cys Leu Asp Pro Arg Val Val Leu  
80 85 90  
Leu Ser Asn Thr Gln Thr Gln Tyr Ser Ile Glu Ile Gln Asn Val  
95 100 105

Asp Val Tyr Asp Glu Gly Pro Tyr Thr Cys Ser Val Gln Thr Asp  
110 115 120

Asn His Pro Lys Thr Ser Arg Val His Leu Ile Val Gln Val Ser  
125 130 135

Pro Lys Ile Val Glu Ile Ser Ser Asp Ile Ser Ile Asn Glu Gly  
140 145 150

Asn Asn Ile Ser Leu Thr Cys Ile Ala Thr Gly Arg Pro Glu Pro  
155 160 165

Thr Val Thr Trp Arg His Ile Ser Pro Lys Ala Val Gly Phe Val  
170 175 180

Ser Glu Asp Glu Tyr Leu Glu Ile Gln Gly Ile Thr Arg Glu Gln  
185 190 195

Ser Gly Asp Tyr Glu Cys Ser Ala Ser Asn Asp Val Ala Ala Pro  
200 205 210

Val Val Arg Arg Val Lys Val Thr Val Asn Tyr Pro Pro Tyr Ile  
215 220 225

Ser Glu Ala Lys Gly Thr Gly Val Pro Val Gly Gln Lys Gly Thr  
230 235 240

Leu Gln Cys Glu Ala Ser Ala Val Pro Ser Ala Glu Phe Gln Trp  
245 250 255

Tyr Lys Asp Asp Lys Arg Leu Ile Glu Gly Lys Lys Gly Val Lys  
260 265 270

Val Glu Asn Arg Pro Phe Leu Ser Lys Leu Ile Phe Phe Asn Val  
275 280 285

Ser Glu His Asp Tyr Gly Asn Tyr Thr Cys Val Ala Ser Asn Lys  
290 295 300

Leu Gly His Thr Asn Ala Ser Ile Met Leu Phe Gly Pro Gly Ala  
305 310 315

Val Ser Glu Val Ser Asn Gly Thr Ser Arg Arg Ala Gly Cys Val  
320 325 330

Trp Leu Leu Pro Leu Leu Val Leu His Leu Leu Leu Lys Phe  
335 340

<210> 523  
<211> 503  
<212> DNA  
<213> Homo sapiens

<400> 523  
gaaaaaaaaat catgaaaacc atccagccaa aaatgcacaa ttctatctct 50  
tgggcaatct tcacggggct ggctgctctg tgtctcttcc aaggagtgcc 100  
cgtgcgccagc ggagatgccca ccttcccaaa agctatggac aacgtgacgg 150  
tccggcaggg ggagagcggc accctcaggt gcactattga caaccgggtc 200  
accgggttg cctggctaaa ccgcagcacc atcctctatg ctgggaatga 250  
caagtgtgc ctggatcctc gcgtggtcct tctgagcaac acccaaacgc 300  
agtacagcat cgagatccag aacgtggatg tgtatgacga gggcccttac 350  
acctgctcgg tgcagacaga caaccaccca aagacctcta gggccacct 400  
catttgcaa gtatctcca aaattgtaga gatttctca gatactcca 450  
ttaatgaagg gaacaatatt agcctcacct gcatagcaac tggtagacca 500  
gag 503

<210> 524  
<211> 2602  
<212> DNA  
<213> Homo sapiens

<400> 524  
atggctgttg acggcggggc cgggcagggg accggggccg cggcccggga 50  
gcgggccagc tgccgggagc cctgaatcac gcctggccc gactccacca 100  
tgaacgtcgc gctgcaggag ctgggagctg gcagcaacgt gggattccag 150  
aaggggacaa gacagctgtt aggctcacgc acgcagctgg agctggtctt 200

agcaggtgcc tctctactgc tggctgcact gcttctgggc tgccttgtgg 250  
ccctaggggt ccagtaccac agagacccat cccacagcac ctgccttaca 300  
gaggcctgca ttcgagtggc tggaaaaatc ctggagtccc tggaccgagg 350  
ggtgagcccc tgtgaggact ttaccagtt ctctgtggg ggctggattc 400  
ggaggaacct cctgcccgat gggcgttctc gctggaacac ctcaacagc 450  
ctctgggacc aaaaccaggc cactactgaag cacctgcttg aaaacaccac 500  
cttcaactcc agcagtgaag ctgagcagaa gacacagcgc ttctacctat 550  
cttgcttaca ggtggagcgc attgaggagc tgggagccca gccactgaga 600  
gacctcattg agaagattgg tggttggaac attacggggc cctgggacca 650  
ggacaacttt atggaggtgt tgaaggcagt agcagggacc tacagggcca 700  
ccccattctt caccgtctac atcagtgccg actctaagag ttccaacagc 750  
aatgttatcc agtgaggacca gtctgggctc tttctgccct ctggggatta 800  
ctacttaaac agaactgcca atgagaaagt gctcactgcc tatctggatt 850  
acatggagga actggggatg ctgctgggtg ggcggccac ctccacgagg 900  
gagcagatgc agcaggtgct ggagttggag atacagctgg ccaacatcac 950  
agtgccccag gaccagcggc gcgacgagga gaagatctac cacaagatga 1000  
gcatttcgga gctgcaggct ctggcgccct ccatggactg gcttgagttc 1050  
ctgtctttct tgctgtcacc attggagttg agtgactctg agcctgtggt 1100  
ggtgtatggg atggattatt tgcagcaggt gtcagagctc atcaaccgca 1150  
cggaaccaag catcctgaac aattacctga tctggaacct ggtgcaaaag 1200  
acaacctcaa gcttgaccg acgctttgag tctgcacaag agaagctgct 1250  
ggagaccctc tatggcacta agaagtcctg tgtgccgagg tggcagacct 1300  
gcatctcaa cacggatgac gcccttgct ttgcttggg gtcactcttc 1350



gtgaaggcca cgtttgaccg gcaaagcaaa gaaattgcag aggggatgat 1400  
cagcgaaatc cggaccgcat ttgaggagge cctgggacag ctggtttgga 1450  
tggatgagaa gaccgccag gcagccaagg agaaagcaga tgccatctat 1500  
gatatgattg gtttccaga cttatcctg gagcccaaag agctggatga 1550  
tgtttatgac ggttacgaaa ttctgaaga ttctttctc caaaacatgt 1600  
tgaatttga caacttctc gccaaaggtta tggctgacca gctccgcaag 1650  
cctccagcc gagaccagtg gagcatgacc cccagacag tgaatgccta 1700  
ctacctcca actaagaatg agatcgtctt cccgctggc atcctgcagg 1750  
cccccttcta tgcccgaac cacccaagg cctgaactt cgggtggcatc 1800  
ggtgtggtca tgggcatga gttgacgcat gcctttgatg accaaggcg 1850  
cgagtatgac aaagaaggga acctgcggcc ctggtggcag aatgagtccc 1900  
tggcagcctt ccggaaccac acggcctgca tggaggaaca gtacaatcaa 1950  
taccagtca atggggagag gctcaacggc cgccagacgc tgggggagaa 2000  
cattactgac aacggggggc tgaaggctgc ctacaatgct taaaagcat 2050  
ggctgagaaa gcatggggag gagcagcaac tgccagccgt ggggctcacc 2100  
aaccaccagc tcttctcgt gggattgcc caggtgtggt gctcgtccg 2150  
cacaccagag agctctcac aggggctggt gaccgaccc cacagcctg 2200  
cccgttccg cgtgctgggc actctctcca actcccgtga ctctctcgg 2250  
cacttggct gcctgtcgg ctccccatg aaccagggc agctgtgtga 2300  
ggtgtggtag acctgatca ggggagaaat ggccagctgt caccagacct 2350  
ggggcagctc tctgacaaa gctgtttgct cttgggttgg gaggaagcaa 2400  
atgcaagctg ggctgggtct agtccctccc cccacaggt gacatgagta 2450  
cagaccctcc tcaatcacca cattgtcct ctgctttggg ggtgccctg 2500

cctccagcag agccccacc attcaactgtg acatctttcc gtgtcacct 2550

gcctggaaga ggtctgggtg gggaggccag ttccatagg aaggagtctg 2600

cc 2602

<210> 525

<211> 736

<212> PRT

<213> Homo sapiens

<400> 525

Met Asn Val Ala Leu Gln Glu Leu Gly Ala Gly Ser Asn Val Gly  
1 5 10 15

Phe Gln Lys Gly Thr Arg Gln Leu Leu Gly Ser Arg Thr Gln Leu  
20 25 30

Glu Leu Val Leu Ala Gly Ala Ser Leu Leu Leu Ala Ala Leu Leu  
35 40 45

Leu Gly Cys Leu Val Ala Leu Gly Val Gln Tyr His Arg Asp Pro  
50 55 60

Ser His Ser Thr Cys Leu Thr Glu Ala Cys Ile Arg Val Ala Gly  
65 70 75

Lys Ile Leu Glu Ser Leu Asp Arg Gly Val Ser Pro Cys Glu Asp  
80 85 90

Phe Tyr Gln Phe Ser Cys Gly Gly Trp Ile Arg Arg Asn Pro Leu  
95 100 105

Pro Asp Gly Arg Ser Arg Trp Asn Thr Phe Asn Ser Leu Trp Asp  
110 115 120

Gln Asn Gln Ala Ile Leu Lys His Leu Leu Glu Asn Thr Thr Phe  
125 130 135

Asn Ser Ser Ser Glu Ala Glu Gln Lys Thr Gln Arg Phe Tyr Leu  
140 145 150

Ser Cys Leu Gln Val Glu Arg Ile Glu Glu Leu Gly Ala Gln Pro  
155 160 165

Leu Arg Asp Leu Ile Glu Lys Ile Gly Gly Trp Asn Ile Thr Gly  
170 175 180

Pro Trp Asp Gln Asp Asn Phe Met Glu Val Leu Lys Ala Val Ala  
185 190 195

Gly Thr Tyr Arg Ala Thr Pro Phe Phe Thr Val Tyr Ile Ser Ala  
200 205 210

Asp Ser Lys Ser Ser Asn Ser Asn Val Ile Gln Val Asp Gln Ser  
215 220 225

Gly Leu Phe Leu Pro Ser Arg Asp Tyr Tyr Leu Asn Arg Thr Ala  
230 235 240

Asn Glu Lys Val Leu Thr Ala Tyr Leu Asp Tyr Met Glu Glu Leu  
245 250 255

Gly Met Leu Leu Gly Gly Arg Pro Thr Ser Thr Arg Glu Gln Met  
260 265 270

Gln Gln Val Leu Glu Leu Glu Ile Gln Leu Ala Asn Ile Thr Val  
275 280 285

Pro Gln Asp Gln Arg Arg Asp Glu Glu Lys Ile Tyr His Lys Met  
290 295 300

Ser Ile Ser Glu Leu Gln Ala Leu Ala Pro Ser Met Asp Trp Leu  
305 310 315

Glu Phe Leu Ser Phe Leu Leu Ser Pro Leu Glu Leu Ser Asp Ser  
320 325 330

Glu Pro Val Val Val Tyr Gly Met Asp Tyr Leu Gln Gln Val Ser  
335 340 345

Glu Leu Ile Asn Arg Thr Glu Pro Ser Ile Leu Asn Asn Tyr Leu  
350 355 360

Ile Trp Asn Leu Val Gln Lys Thr Thr Ser Ser Leu Asp Arg Arg  
365 370 375

Phe Glu Ser Ala Gln Glu Lys Leu Leu Glu Thr Leu Tyr Gly Thr  
380 385 390

Lys Lys Ser Cys Val Pro Arg Trp Gln Thr Cys Ile Ser Asn Thr  
395 400 405

Asp Asp Ala Leu Gly Phe Ala Leu Gly Ser Leu Phe Val Lys Ala  
410 415 420

Thr Phe Asp Arg Gln Ser Lys Glu Ile Ala Glu Gly Met Ile Ser  
425 430 435

Glu Ile Arg Thr Ala Phe Glu Glu Ala Leu Gly Gln Leu Val Trp  
440 445 450

Met Asp Glu Lys Thr Arg Gln Ala Ala Lys Glu Lys Ala Asp Ala  
455 460 465

Ile Tyr Asp Met Ile Gly Phe Pro Asp Phe Ile Leu Glu Pro Lys  
470 475 480

Glu Leu Asp Asp Val Tyr Asp Gly Tyr Glu Ile Ser Glu Asp Ser  
485 490 495

Phe Phe Gln Asn Met Leu Asn Leu Tyr Asn Phe Ser Ala Lys Val  
500 505 510

Met Ala Asp Gln Leu Arg Lys Pro Pro Ser Arg Asp Gln Trp Ser  
515 520 525

Met Thr Pro Gln Thr Val Asn Ala Tyr Tyr Leu Pro Thr Lys Asn  
530 535 540

Glu Ile Val Phe Pro Ala Gly Ile Leu Gln Ala Pro Phe Tyr Ala  
545 550 555

Arg Asn His Pro Lys Ala Leu Asn Phe Gly Gly Ile Gly Val Val  
560 565 570

Met Gly His Glu Leu Thr His Ala Phe Asp Asp Gln Gly Arg Glu  
575 580 585

Tyr Asp Lys Glu Gly Asn Leu Arg Pro Trp Trp Gln Asn Glu Ser  
590 595 600

Leu Ala Ala Phe Arg Asn His Thr Ala Cys Met Glu Glu Gln Tyr  
605 610 615

Asn Gln Tyr Gln Val Asn Gly Glu Arg Leu Asn Gly Arg Gln Thr  
620 625 630

Leu Gly Glu Asn Ile Thr Asp Asn Gly Gly Leu Lys Ala Ala Tyr  
635 640 645

Asn Ala Tyr Lys Ala Trp Leu Arg Lys His Gly Glu Glu Gln Gln  
650 655 660

Leu Pro Ala Val Gly Leu Thr Asn His Gln Leu Phe Phe Val Gly  
665 670 675

Phe Ala Gln Val Trp Cys Ser Val Arg Thr Pro Glu Ser Ser His  
680 685 690

Glu Gly Leu Val Thr Asp Pro His Ser Pro Ala Arg Phe Arg Val  
695 700 705

Leu Gly Thr Leu Ser Asn Ser Arg Asp Phe Leu Arg His Phe Gly  
710 715 720

Cys Pro Val Gly Ser Pro Met Asn Pro Gly Gln Leu Cys Glu Val  
725 730 735

Trp

<210> 526

<211> 4308

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 1478, 3978, 4057-4058, 4070

<223> unknown base

<400> 526

gcccggcct ccgccctccg cactcccgcc tcctccctc cgcccgtcc 50

cgcgccctcc tcctccctc ctcccagct gtcccgttcg cgctatgccg 100

agcctcccgg ccccggcggc cccgctgctg ctctcgggc tgctgctgct 150

cggtcccgg ccggcccggc gcggcggccc agagcccccc gtgctgccca 200

tccgttctga gaaggagccg ctgcccgttc ggggagcggc aggtaggtgg 250  
gcgcccgggg gaggcgcggg cggggagtgc ggctcggggc gagtcagcgc 300  
cagcccggag ggggcgcggg gcgcaggtgg ctgggcgcgg cgggcggccc 350  
ggaggggtggg cgggggcaga agggcgcggt gcctgggacc cgggacccgc 400  
gggcagcccc cggggcggca cacggcgcga gctgggcagc ggcctccagc 450  
caagcccgtc cccgcaggct gcaccttcgg cggaaggtc tatgccttgg 500  
acgagacgtg gcaccggac ctaggggagc cattcgggt gatgcctgc 550  
gtgctgtgcg cctgcgaggc gcagtgggt cgccgtacca ggggccttg 600  
cagggtcagc tgcaagaaca tcaaaccaga gtgcccaacc cggcctgtg 650  
ggcagccgcg ccagctccg ggacactgct gccagacctg ccccaggac 700  
ttctggcgc tgctgacagg gccgaggtcg caggcgggtg cacgagcccg 750  
agtctcgtg ctgcctcta gcctccgtt ctctatctcc tacaggcggc 800  
tggaccgcc taccaggatc cgctctcag actccaatgg cagtgtctg 850  
ttgagcacc ctgcagccc cacccaagat ggctgtgtctgtgggtgtg 900  
gcgggcagtg cctcggttgt ctctcggct ccttagggca gaacagctgc 950  
atgtggcact tgtgacactc actcaccctt caggggaggt ctggggcct 1000  
ctcatccgc accgggcct gccccagag acctcagt ccactctgac 1050  
tctagaaggc cccaccagc agggcgtagg gggcatcacc ctgctcactc 1100  
tcagtacac agaggactcc ttgattttt tgctgctctt ccgaggcctt 1150  
gcaggactaa cccaggttcc cttgaggctc cagattctac accaggggca 1200  
gctactgca gaactcagg ccaatgtct agcccaggaa ccaggcttg 1250  
ctgaggtgct gcccaacctg acagtccagg agatggactg gctggtgctg 1300  
ggggagctgc agatggcct ggagtggca ggcaggccag ggctgcgcat 1350

cagtggacac attgctgcca ggaagagctg cgacgtctg caaagtgtcc 1400  
ttgtggggc taatgcctg atcccagtcc aaacgggtgc tgccggctca 1450  
gccagcctca ctctgctagg aatggcncc ctgacctcc aggtgcaatt 1500  
ggtagggaca accagtgagg tggggccat gacactggaa accaagcctc 1550  
agcggaggga tcagcccact gtctgtgcc acatggctgg cctatcctcc 1600  
cctgccccca ggccgtgggt atctgccctg ggctgggggtg cccgaggggc 1650  
tcatatgctg ctgcagaat agctcttct gaacgtgggc accaaggact 1700  
tcccagacgg agagcttcgg gggcaactg gctgccctgc cctactgtgg 1750  
ggcatagcgc ccgccctgcc cgtgcccta gcaggagccc tgggtctacc 1800  
ccctgtgaag agccaagcag cagggcacgc ctggcttcc ttgataccc 1850  
actgtcacct gcactatgaa gtgctgctgg ctgggcttg tggtcagaa 1900  
caaggcactg tactgcca cctcctggg cctcctggaa cgccagggcc 1950  
tcggcggctg ctgaagggat tctatggctc agaggcccag ggtgtggtga 2000  
aggacctgga gccggaactg ctgcggcacc tggcaaaagg catggcttcc 2050  
ctgatgatca ccaccaaggt agccccagag gggagctccg agggcagcct 2100  
ctcctcccag gtgcacatag ccaaccaatg tgaggttggc ggactgcgc 2150  
tggaggcggc cggggccgag ggggtgcggg cgctgggggc tccggataca 2200  
gcctctgctg cgccgctgt ggtgcctggt ctcccggccc tagcggccgc 2250  
caaacctggt ggtcctgggc ggccccgaga cccaacaca tcttcttcg 2300  
aggggcagca gcgccccac ggggctcgt gggcgcccaa ctacgaccg 2350  
ctctgtcac tctgcacctg ccagagacga acggtgatct gtgaccgggt 2400  
gggtgcccc aagcccagct gccacaccc ggtgcaggct cccgaccagt 2450  
gctgccctgt ttgccctggc tgctatttg atggtgaccg gagctggcgg 2500

gcagcgggta cgcggtggca ccccgttg ccccccttg gcttaattaa 2550  
gtgtgctgtc tgcacctgca agcagggggg cactggagag gtgcactgtg 2600  
agaaggtgca gtgtccccgg ctggcctgtg cccagcctgt gcgtgtcaac 2650  
cccaccgact gctgcaaaca gtgtccaggt gaggccacc cccagctggg 2700  
ggacccatg caggctgatg ggccccgggg ctgccgtttt gctgggcagt 2750  
ggttccaga gagtcagagc tggcaccct cagtgtcccc gtttgagag 2800  
atgagctgta tcacctgcag atgtggggta agtggggagc agaggcttgt 2850  
gtgaggtggg tactgggagc ctggtctgga gtagggagac cttcccaggg 2900  
aggtccctga agaagctgaa ggtcactgtg tcccagtcc tctgggggac 2950  
actcagtgtc tgtctgtct tgtaccaggc aggggtgcct cactgtgagc 3000  
gggatgactg ttcactgcca ctgtcctgtg gctcggggaa ggagagtcga 3050  
tgctgtccc gctgcacggc ccaccggcgg cgtaagtgag ggagtccagg 3100  
gtcagcagct gtgagtggag ggctcacctg cctgtgggac tctgatcag 3150  
ggaagggagc actcactgtg tgcaggaaca gtgcagcctg cctcacaagt 3200  
gccattcaa tccacctca cagcaacctg gtggaattgt tatttatgac 3250  
ctttcttta caaatgagat ttctgaagct cagagaaatt aagcaacgag 3300  
atgaaggtca cccagctgtg tgcactgacc tgtttagaaa atactggcct 3350  
ttctgggacc aaggcaggga tgccttggcc tgcctctat gcctctctgt 3400  
gcctctccac tcctctccc ctctccaac attcctccc ttctgtctcc 3450  
agcagcccca gagaccagaa ctgatccaga gctggagaaa gaagccgaag 3500  
gctcttaggg agcagccaga gggccaagtg accaagagga tggggcctga 3550  
gctggggaag ggggtggcatc gaggacctc ttgcattctc ctgtgggaag 3600  
cccagtgcct ttgtctctct gtctgcctc tactcccacc cccactacct 3650



ctggaacca cagctccaca agggggagag gcagctgggc cagaccgagg 3700  
tcacagccac tccaagtctt gcctgccac cctcggcctc tgtctggaa 3750  
gccccacccc tttcttctg tacataatgt cactggcttg ttgggatttt 3800  
taatttatct tcaactcagca ccaagggcc cggacactcc actcctgctg 3850  
cccctgagct gagcagagtc attattggag agttttgtat ttattaaac 3900  
attcttttt cagtctttgg gcatgaggtt ggctctttgt ggccaggaac 3950  
ctgagtgggg cctggtggag aaggggcnga gagtaggagg tgagagagag 4000  
gagctctgac acttggggag ctgaaagaga cctggagagg cagaggatag 4050  
cgtggcnntt ggctggcatn cctgggttcc gcagaggggc tgggatggt 4100  
tcttgagatg gtctagagac tcaagaattt agggaagtag aagcaggatt 4150  
ttgactcaag ttagtttcc cacatcgctg gcctgtttgc tgactcatg 4200  
ttgaagttg ctccagagag agaatcaaag gtgtcaccag cccctcttc 4250  
cctcttccc ttccttccc ttttttccc tcccctccc tcccctccc 4300  
tcccctcc 4308

<210> 527  
<211> 1285  
<212> DNA  
<213> Homo sapiens

<400> 527  
ggccgagcgg ggggtctgcg cggcggccgt gatggctggt gacggcgggg 50  
ccgggcaggg gaccggggcc gcggcccggg agcgggcccag ctgccgggag 100  
ccctgaatca ccgctggcc cgactccacc atgaacgtcg cgctgcagga 150  
gctgggagct ggcagcaacg tgggattcca gaaggggaca agacagctgt 200  
taggctcacg cacgcagctg gagctggtct tagcaggtgc ctcttactg 250  
ctggctcac tgcttctggg ctgccttgtg gccctagggg tccagtacca 300

cagagacca tcccacagca cctgccttac agaggcctgc attcgagtgg 350  
ctggaaaaat cctggagtcc ctggaccgag gggtagagccc ctgtgaggac 400  
tttaccagt tctcctgtgg gggctggatt cggaggaacc ccctgcccga 450  
tggcggttct cgctggaaca cttcaacag cctctgggac caaaaccagg 500  
ccatactgaa gcacctgctt gaaaacacca cttcaactc cagcagtgaa 550  
gctgagcaga agacacagcg cttctaccta tcttcctac aggtggagcg 600  
cattgaggag ctgggagccc agccactgag agacctcatt gagaagattg 650  
gtggttgaa cattacgggg ccctgggacc aggacaactt tatggaggtg 700  
ttgaaggcag tagcagggac ctacagggcc acccattct tcacctcta 750  
catcagtcc gacttaaga gttccaacag caatgtatc caggtggacc 800  
agtctgggct cttctgccc tctcgggatt actactaaa cagaactgcc 850  
aatgagaaag taaggaacat ctccgaacc cccatccta ccctggctg 900  
agctgggctg atccctgtg acttttcct ttccaaggg tcagagcagg 950  
gaagtgagc ctatcctgtc acctagttaa caaactgecc ctccttctt 1000  
tcttcttct tctctcctc cctcccttc ttccccttt ccttcttcc 1050  
ttctcttat tctctagta ggttcatag acacctactg tgtgccaggt 1100  
ccagtggggg aattcggaga tataagtctc cgagccattg ccacaggaag 1150  
cgttcagtgt cgatgggttc atggacctag ataggctgat aacaaagctc 1200  
acaagagggt cctgaggatt caggagagac ttatggagcc agcaaagtct 1250  
tcctgaagag attgcattg agccaggtcc tgtag 1285

<210> 528  
<211> 1380  
<212> DNA  
<213> Homo sapiens

<400> 528

atgcctacta ccttccaact aagaatgaga tcgtcttccc cgctggcatc 50  
ctgcaggccc ccttctatgc ccgcaaccac cccaaggccc tgaacttcgg 100  
tggcatcggg gtggcatgg gccatgagtt gacgcatgcc tttgatgacc 150  
aagggcgcga gtatgacaaa gaagggaacc tgcggcctg gtggcagaat 200  
gagtcctgg cagccttccg gaaccacacg gcctgcatgg aggaacagta 250  
caatcaatac caggtaaatg gggagaggct caacggccgc cagacgctgg 300  
gggagaacat tgctgacaac ggggggctga aggctgccta caatgcttac 350  
aaagcatggc tgagaaagca tggggaggag cagcaactgc cagccgtggg 400  
gctcaccaac caccagctct tcttcgtggg atttgccag gtgtggtgct 450  
cgttccgcac accagagagc tctcacgagg ggctggtgac cgacccccac 500  
agccctgccc gcttccgct gctgggcaact ctctccaact cccgtgactt 550  
cctgcggcac ttcggctgcc ctgtcgctc cccatgaac ccagggcagc 600  
tgtgtgaggt gtgtagacc tggatcaggg gagaaatggc cagctgtcac 650  
cagacctggg gcagctctcc tgacaaagct gtttctctt gggttgggag 700  
gaagcaaatg caagctgggc tgggtctagt cctcccccc cacaggtgac 750  
atgagtacag accctcctca atcaccacat tgtgcctctg ctttgggggt 800  
gccctgcct ccagcagagc ccccaccatt cactgtgaca tcttccgtg 850  
tcacctgcc tggagaggt ctgggtgggg aggccagttc ccataggaag 900  
gagtctgct cttctgtccc caggctcact cagcctggcg gccatggggc 950  
ctgccgtgcc tgccccactg tgaccacag gcctgggtgg tgtacctct 1000  
ggacttctcc ccaggtcac tcagtgcgca cttaggggtg gactcagctc 1050  
tgtctggctc accctcacgg gctaccccc cctcaccctg tgetcctgt 1100

gccactgctc ccagtgctgc tgctgacctt cactgacagc tcctagtgga 1150

agcccaaggg cctctgaaag cctctgctg cccactgttt ccctgggctg 1200

agaggggaag tgcatatgtg tagcgggtac tggttcctgt gtcttagggc 1250

acaagcctta gcaaatgatt gattctcctt ggacaaagca ggaaagcaga 1300

tagagcaggg aaaaggaaga acagagtta ttttacaga aaagagggtg 1350

ggagggtgtg gtcttgccc ttataggacc 1380

<210> 529

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 529

gaagcagtgc agccagcagt agagaggcac ctgctaaga 39

<210> 530

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 530

acgcagctgg agctggtctt agca 24

<210> 531

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 531

ggtactggac ccctagggcc acaa 24

<210> 532  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 532  
cctcccagcc gagaccagtg g 21

<210> 533  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 533  
ggcctataa gggccaagac c 21

<210> 534  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 534  
gactagtct agatcgcgag cggccgcct tttttttt tttt 44

<210> 535  
<211> 16  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 535  
cggacgctg ggtcga 16

<210> 536

<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 536  
cggccgtgat ggctggtgac g 21

<210> 537  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 537  
ggcagactcc ttctatggg 20

<210> 538  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 538  
ggcacttcat ggccttgaa a 21

<210> 539  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 539  
cggatgtgtg tgaggccatg cc 22

<210> 540  
<211> 24

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 540  
gaaagtaacc acggaggtca agat 24

<210> 541  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 541  
cctcctccga gactgaaagc t 21

<210> 542  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 542  
tcgcgttgct tttctcgcg tg 22

<210> 543  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 543  
gcgtgcgtca ggtcca 17

<210> 544  
<211> 19  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 544

cgttcgtgca gcgtgtgta 19

<210> 545

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 545

cttcctcacc acctgcgacg gg 22

<210> 546

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 546

ggtaggcggg cctatagatg gtt 23

<210> 547

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 547

agatgtggat gaatgcagtg cta 23

<210> 548

<211> 24

<212> DNA

<213> Artificial Sequence



<220>

<223> Synthetic oligonucleotide probe

<400> 548

atcaacaccg ccggcagtta ctgg 24

<210> 549

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 549

acagagtga ccgtctgcag aca 23

<210> 550

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 550

agcctcctgg tgcactcct 19

<210> 551

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 551

cgactccctg agcgagcaga ttcc 25

<210> 552

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 552

gctgggcagt cacgagtctt 20

<210> 553

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 553

aatcctccat ctcagatctt ccag 24

<210> 554

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 554

cctcagcggc aacagccggc c 21

<210> 555

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 555

tggccaagg gctgc 15

<210> 556

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 556  
tgggtgataa ccaacaagat gg 22

<210> 557  
<211> 34  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 557  
gagtctgcat ccacaccact cttaaagttc tcaa 34

<210> 558  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 558  
caggtgctct tttcagtcac gttt 24

<210> 559  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 559  
tggccattct caggacaaga g 21

<210> 560  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic oligonucleotide probe

<400> 560

cagtaatgcc attgcctgc ctgcat 26

<210> 561

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 561

tgcttgaat cacatgaca 19

<210> 562

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide probe

<400> 562

tgtggcacag acccaatcct 20

<210> 563

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 563

gaccctgaag gcctccggcc t 21

<210> 564

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 564

gagagaggga aggcagctat gtc 23

<210> 565

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 565

cagcccctct ctttcacctg t 21

<210> 566

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 566

ccatcctgtg cagctgacac acagc 25

<210> 567

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 567

gccaggctat gaggtcctt 20

<210> 568

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 568

ttcaagttcc tgaagccgat tat 23

<210> 569

<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 569  
ccaacttccc tccccagtgc cct 23

<210> 570  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 570  
ttggggaagg tagaatttc ttgtat 26

<210> 571  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 571  
cccttctgcc tccaattct 20

<210> 572  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 572  
tctctcctgt cccttctctc cact 24

<210> 573  
<211> 20

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 573  
tgagccactg ccttgatta 20

<210> 574  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 574  
tctgcagacg cgatggataa 20

<210> 575  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 575  
ccgaaaataa aacatcgccc cttctg 26

<210> 576  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 576  
cacgtggcct tcacactga 20

<210> 577  
<211> 25  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 577

actgtgaca gcagtatgct gtctt 25

<210> 578

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 578

aagcttctgt tcaatcccag cggctc 26

<210> 579

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 579

atgcacaggc ttttctggt aa 22

<210> 580

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 580

gcaggaaacc ttcgaatctg ag 22

<210> 581

<211> 29

<212> DNA

<213> Artificial Sequence



<220>

<223> Synthetic oligonucleotide probe

<400> 581

acacctgagg cacctgagag aggaactct 29

<210> 582

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 582

gacagcccag tacacctgca a 21

<210> 583

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 583

gacggctgga tctgtgagaa a 21

<210> 584

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 584

cacaactgct gaccccgcc a 21

<210> 585

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 585

ccaggatacg acatgctgca 20

<210> 586

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 586

aaactccaac ctgtatcaga tgca 24

<210> 587

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 587

ccccaagcc cttagactct aagcc 25

<210> 588

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 588

gacccgacac cttgctaac 19

<210> 589

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 589  
ggacggtcag tcaggatgac a 21

<210> 590  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 590  
ttcggcatca tctcttcct ctccc 25

<210> 591  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 591  
acaaaaaaaa gggaacaaaa tacga 25

<210> 592  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 592  
ctttgaatag aagacttctg gacaattt 28

<210> 593  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 593

ttgcaactgg gaatatacca cgacatgaga 30

<210> 594

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 594

tagggtgcta atttgctga taacct 26

<210> 595

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 595

ggctctgagt ctctgctga 20

<210> 596

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 596

tccaacaacc atttcctct ggtcc 25

<210> 597

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 597

aagcagtagc cattaacaag tca 23

<210> 598  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 598  
caagcgtcca ggttattga 20

<210> 599  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 599  
gactacaagg cgctcagcta 20

<210> 600  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 600  
ccggctgggt ctactctc c 21

<210> 601  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 601  
cgttcgtgca gcgtgtgta 19

<210> 602

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 602

cttcctcacc acctgacgacg gg 22

<210> 603

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 603

gtaggcggt cctatagatg gtt 23

<210> 604

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 604

agatgtggat gaatgcagtg cta 23

<210> 605

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 605

atcaacaccg ccggcagtta ctgg 24

<210> 606

<211> 23

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 606  
acagagtgtg ccgtctgcag aca 23

<210> 607  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 607  
agcctcctgg tgcactct 19

<210> 608  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 608  
cgactcctg agcgagcaga ttcc 25

<210> 609  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 609  
gctgggcagt cacgagtctt 20

<210> 610  
<211> 2840  
<212> DNA

<213> Homo Sapien

<400> 610

cccacgcgtc cgagccgccc gagaattaga cacactccgg acgaggccaa 50  
aagcaaccga gaggaggga ggcaaaaaca ccgaaaaca aaaagagaga 100  
aacaacacc aacaactggg gtgggggaa gaaagaaaga aaagaaacc 150  
accacccac caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaatc 200  
ctgtggcgcg ccgctggtt cccgggaaga ctgccagca ccaggggtg 250  
ggggagtgcg agctgaaagc tgctggagag tgagcagccc tagcaggat 300  
ggacatgatg ctgttggtc aggggtctg ttgctgaac cagtggctg 350  
cggcgtgct cctcagcctg tgctgctgc taccctctg cctcccgct 400  
ggacagagtg tggactccc ctggcgcc gtggacaaca tgatgtcag 450  
aaaaggggac acggcgtgc ttaggtgta tttggaagat ggagctcaa 500  
agggtgctg gctgaaccg tcaagtatta ttttgctgg aggtgataag 550  
tggtcagtgg atcctcagat ttcaattca acattgaata aaaggacta 600  
cagcctccag atacagaatg tagatgtgac agatgatggc ccatacacgt 650  
gttctgtca gactcaacat acaccagaa caatgcaggt gcatctaact 700  
gtgcaagttc ctctaagat atatgacatc tcaatgata tgaccgtcaa 750  
tgaaggaacc aacgtcactc ttactgttt ggccactggg aaaccagagc 800  
cttcatttc ttggcgacac atctcccat cagcaaaacc attgaaaat 850  
ggacaatatt tggacattta tgaattaca aggaccagg ctggggaata 900  
tgaatgcagt gcgaaaatg ctgtgcatt cccagatgtg aggaaagtaa 950  
aagtgtgtg caactttgct cctactatc aggaaattaa atctggcacc 1000  
gtgacccccg gacgcagtgg cctgataaga tgtgaagtg caggtgtgcc 1050



gcctccagcc ttgaaatggt acaaaggaga gaagaagctc ttcaatggcc 1100  
aacaaggaat tattattcaa aatthtagca caagatccat tctcactgtt 1150  
accaacgtga cacaggagca cttcggaat tatacctgtg tggctgcaa 1200  
caagctagge acaaccaatg cgagcctgcc tcttaaccct ccaagtacag 1250  
cccagtatgg aattaccggg agcgctgatg ttctttctc ctgctggtac 1300  
cttggttga cactgtctc ttcaccage atattctacc tgaagaatgc 1350  
cattctaaa taaattcaaa gaccataaa aggctttta ggattctctg 1400  
aaagtctga tggctggatc caatctgga cagtttgta aaagcagct 1450  
gggataat cagcagtgt tacatgggga tgatecctt ctgtagaatt 1500  
gctcattatg taaatactt aattctact tttttgatt agctacatta 1550  
ccttgtaag cagtacacat tgcctttt ttaagacgtg aaagctctga 1600  
aattacttt agaggatatt aattgtgatt tcatgtttg aatctacaac 1650  
tttcaaaag cattcagta tggctgcta ggtgcagc ttagtttac 1700  
aaaaacgaat attgcagta atatgtgatt cttaaggct gcaatacaag 1750  
cattcagtc cctgttcaa taagagtaa tccacatta caaagatgca 1800  
tttttctt tttgataaa aaagcaata atattgcctt cagattatt 1850  
cttcaaaata taacacatat ctgatttt ctgcttgc atattcagg 1900  
ttcaggaat ggccttga atataactgg ctgtgcagct ctgcttct 1950  
ttcctgtaag ttcagcatgg gtgtgcctc atacaataat attttctct 2000  
ttgtctcaa ctaataaaa atgtttgct aaatctaca atttgaaagt 2050  
aaaaataaac cagagtgatc aagttaaacc atacactatc tctaagtaac 2100  
gaaggagcta ttgactgta aaaatcttt cctgcactga caatggggtt 2150  
tgagaatttt gccccacact aactcagttc ttgtgatgag agacaattta 2200

ataacagtat agtaaata ccatatgatt tctttagttg tagctaaatg 2250

ttagatccac cgtgggaaat cattcccttt aaaatgacag cacagtccac 2300

tcaaaggatt gcctagcaat acagcatctt ttcctttcac tagtccaagc 2350

caaaaathtt aagatgattt gtcagaaaagg gcacaaagtc ctatcaccta 2400

atattacaag agttggaag cgctcatcat taathttatt ttgtggcagg 2450

tattatgaca gtcgacctgg agggatgga tatggatatg gacgttccag 2500

agactataat ggcagaaacc aggggtggtta tgaccgctac tcaggaggaa 2550

attacagaga caattatgac aactgaaatg agacatgcac ataatataga 2600

tacacaagga ataattctg atccaggatc gtccttccaa atggctgtat 2650

ttataaaggt ttttgagct gcaactgaagc atctathtt atagtatac 2700

aacctttgt ttttaaatg acctgccaag gtagctgaag accttttaga 2750

cagttccatc tttttttta aathttctt gcctathta agacaaatta 2800

tgggacgttt gtcaaaaaa aaaaaaaaa aaaaaaaaa 2840

<210> 611

<211> 352

<212> PRT

<213> Homo Sapien

<400> 611

Met Met Leu Leu Val Gln Gly Ala Cys Cys Ser Asn Gln Trp Leu

1 5 10 15

Ala Ala Val Leu Leu Ser Leu Cys Cys Leu Leu Pro Ser Cys Leu

20 25 30

Pro Ala Gly Gln Ser Val Asp Phe Pro Trp Ala Ala Val Asp Asn

35 40 45

Met Met Val Arg Lys Gly Asp Thr Ala Val Leu Arg Cys Tyr Leu

50 55 60

Glu Asp Gly Ala Ser Lys Gly Ala Trp Leu Asn Arg Ser Ser Ile

65                    70                    75

Ile Phe Ala Gly Gly Asp Lys Trp Ser Val Asp Pro Arg Val Ser  
80                    85                    90

Ile Ser Thr Leu Asn Lys Arg Asp Tyr Ser Leu Gln Ile Gln Asn  
95                    100                    105

Val Asp Val Thr Asp Asp Gly Pro Tyr Thr Cys Ser Val Gln Thr  
110                    115                    120

Gln His Thr Pro Arg Thr Met Gln Val His Leu Thr Val Gln Val  
125                    130                    135

Pro Pro Lys Ile Tyr Asp Ile Ser Asn Asp Met Thr Val Asn Glu  
140                    145                    150

Gly Thr Asn Val Thr Leu Thr Cys Leu Ala Thr Gly Lys Pro Glu  
155                    160                    165

Pro Ser Ile Ser Trp Arg His Ile Ser Pro Ser Ala Lys Pro Phe  
170                    175                    180

Glu Asn Gly Gln Tyr Leu Asp Ile Tyr Gly Ile Thr Arg Asp Gln  
185                    190                    195

Ala Gly Glu Tyr Glu Cys Ser Ala Glu Asn Ala Val Ser Phe Pro  
200                    205                    210

Asp Val Arg Lys Val Lys Val Val Val Asn Phe Ala Pro Thr Ile  
215                    220                    225

Gln Glu Ile Lys Ser Gly Thr Val Thr Pro Gly Arg Ser Gly Leu  
230                    235                    240

Ile Arg Cys Glu Gly Ala Gly Val Pro Pro Pro Ala Phe Glu Trp  
245                    250                    255

Tyr Lys Gly Glu Lys Lys Leu Phe Asn Gly Gln Gln Gly Ile Ile  
260                    265                    270

Ile Gln Asn Phe Ser Thr Arg Ser Ile Leu Thr Val Thr Asn Val  
275                    280                    285

Thr Gln Glu His Phe Gly Asn Tyr Thr Cys Val Ala Ala Asn Lys

290 295 300

Leu Gly Thr Thr Asn Ala Ser Leu Pro Leu Asn Pro Pro Ser Thr  
305 310 315

Ala Gln Tyr Gly Ile Thr Gly Ser Ala Asp Val Leu Phe Ser Cys  
320 325 330

Trp Tyr Leu Val Leu Thr Leu Ser Ser Phe Thr Ser Ile Phe Tyr  
335 340 345

Leu Lys Asn Ala Ile Leu Gln  
350

<210> 612  
<211> 1797  
<212> DNA  
<213> Homo Sapien

<400> 612  
agtggttcga tgggaaggat cttctccaa gtggttctc ttgaggggag 50  
cattctgct ggctccagga cttggccat ctataaagct tggcaatgag 100  
aaataagaaa atttcaagg aggacgagct ctgagtgag acccaacaag 150  
ctgcttttca ccaaattgca atggagcctt tcgaaatcaa tgttccaaag 200  
cccaagagga gaaatggggg gaacttctcc cttagctgtg tggtcatcta 250  
cctgatcctg ctaccgctg gcgctgggct gctggtggtc caagttctga 300  
atctgcaggc gcggctccgg gtcttgaga tgtatttct caatgacact 350  
ctggcggctg aggacagccc gtcttctcc ttgctgcagt cagcacaccc 400  
tggaagaacac ctggctcagg gtgcatcgag gctgcaagtc ctgcaggccc 450  
aactcacctg ggtccgctc agccatgagc acttgctgca gcgggtagac 500  
aactcactc agaaccagg gatgttcaga atcaaagggt aacaaggcgc 550  
cccaggtctt caaggtcaca agggggccat gggcatgcct ggtgccctg 600  
gcccgccggg accacctgct gagaaggag ccaagggggc tatgggacga 650

gatggagcaa caggcccctc gggaccccaa ggcccaccgg gagtcaaggg 700  
agaggcgggc ctccaaggac cccaggggtgc tccaggggaag caaggagcca 750  
ctggcacccc aggaccccaa ggagagaagg gcagcaaagg cgatgggggt 800  
ctcattggcc caaaagggga aactggaact aaggagaga aaggagacct 850  
gggtctcca ggaagcaaag gggacagggg catgaaagga gatgcagggg 900  
tcatggggcc tcctggagcc caggggagta aaggtgactt cgggaggcca 950  
ggcccaccag gtttgctgg ttttctgga gctaaaggag atcaaggaca 1000  
acctggactg cagggtgtc cgggccctcc tggtcagtg ggacaccag 1050  
gtccaaggg tgagcctggc agtgctggct cccctgggcg agcaggactt 1100  
ccaggagcc ccgggagtcc aggagccaca ggcctgaaag gaagcaaagg 1150  
ggacacagga cttcaaggac agcaaggaag aaaaggagaa tcaggagttc 1200  
caggccctgc aggtgtgaag ggagaacagg ggagcccagg gctggcaggt 1250  
cccaaggag cccctggaca agctggccag aaggagacc agggagtga 1300  
aggatcttct ggggagcaag gagtaaagg agaaaaaggt gaaagagtg 1350  
aaaactcagt gtccgtcagg attgtcgca gtagtaaccg aggccgggct 1400  
gaagttact acagtgttac ctgggggaca atttgcgatg acgagtggca 1450  
aaattctgat gccattgtct tctgccgat gctgggttac tccaaaggaa 1500  
gggccctgta caaagtggga gctggcactg ggcagatctg gctggataat 1550  
gttcagtgtc ggggcacgga gagtaccctg tggagctgca ccaagaatag 1600  
ctggggccat catgactgca gccacagga ggacgcaggc gtggagtgca 1650  
gcgtctgacc cggaaccct ttcacttctc tgctcccag gtgtcctcgg 1700  
gctcatatgt gggaaggcag aggatctctg aggagttccc tggggacaac 1750  
tgagcagcct ctggagaggg gccattaata aagctcaaca tcattga 1797

<210> 613

<211> 520

<212> PRT

<213> Homo Sapien

<400> 613

Met Arg Asn Lys Lys Ile Leu Lys Glu Asp Glu Leu Leu Ser Glu

1 5 10 15

Thr Gln Gln Ala Ala Phe His Gln Ile Ala Met Glu Pro Phe Glu

20 25 30

Ile Asn Val Pro Lys Pro Lys Arg Arg Asn Gly Val Asn Phe Ser

35 40 45

Leu Ala Val Val Val Ile Tyr Leu Ile Leu Leu Thr Ala Gly Ala

50 55 60

Gly Leu Leu Val Val Gln Val Leu Asn Leu Gln Ala Arg Leu Arg

65 70 75

Val Leu Glu Met Tyr Phe Leu Asn Asp Thr Leu Ala Ala Glu Asp

80 85 90

Ser Pro Ser Phe Ser Leu Leu Gln Ser Ala His Pro Gly Glu His

95 100 105

Leu Ala Gln Gly Ala Ser Arg Leu Gln Val Leu Gln Ala Gln Leu

110 115 120

Thr Trp Val Arg Val Ser His Glu His Leu Leu Gln Arg Val Asp

125 130 135

Asn Phe Thr Gln Asn Pro Gly Met Phe Arg Ile Lys Gly Glu Gln

140 145 150

Gly Ala Pro Gly Leu Gln Gly His Lys Gly Ala Met Gly Met Pro

155 160 165

Gly Ala Pro Gly Pro Pro Gly Pro Pro Ala Glu Lys Gly Ala Lys

170 175 180

Gly Ala Met Gly Arg Asp Gly Ala Thr Gly Pro Ser Gly Pro Gln

185 190 195

Gly Pro Pro Gly Val Lys Gly Glu Ala Gly Leu Gln Gly Pro Gln  
200 205 210

Gly Ala Pro Gly Lys Gln Gly Ala Thr Gly Thr Pro Gly Pro Gln  
215 220 225

Gly Glu Lys Gly Ser Lys Gly Asp Gly Gly Leu Ile Gly Pro Lys  
230 235 240

Gly Glu Thr Gly Thr Lys Gly Glu Lys Gly Asp Leu Gly Leu Pro  
245 250 255

Gly Ser Lys Gly Asp Arg Gly Met Lys Gly Asp Ala Gly Val Met  
260 265 270

Gly Pro Pro Gly Ala Gln Gly Ser Lys Gly Asp Phe Gly Arg Pro  
275 280 285

Gly Pro Pro Gly Leu Ala Gly Phe Pro Gly Ala Lys Gly Asp Gln  
290 295 300

Gly Gln Pro Gly Leu Gln Gly Val Pro Gly Pro Pro Gly Ala Val  
305 310 315

Gly His Pro Gly Ala Lys Gly Glu Pro Gly Ser Ala Gly Ser Pro  
320 325 330

Gly Arg Ala Gly Leu Pro Gly Ser Pro Gly Ser Pro Gly Ala Thr  
335 340 345

Gly Leu Lys Gly Ser Lys Gly Asp Thr Gly Leu Gln Gly Gln Gln  
350 355 360

Gly Arg Lys Gly Glu Ser Gly Val Pro Gly Pro Ala Gly Val Lys  
365 370 375

Gly Glu Gln Gly Ser Pro Gly Leu Ala Gly Pro Lys Gly Ala Pro  
380 385 390

Gly Gln Ala Gly Gln Lys Gly Asp Gln Gly Val Lys Gly Ser Ser  
395 400 405

Gly Glu Gln Gly Val Lys Gly Glu Lys Gly Glu Arg Gly Glu Asn  
410 415 420

Ser Val Ser Val Arg Ile Val Gly Ser Ser Asn Arg Gly Arg Ala  
425 430 435

Glu Val Tyr Tyr Ser Gly Thr Trp Gly Thr Ile Cys Asp Asp Glu  
440 445 450

Trp Gln Asn Ser Asp Ala Ile Val Phe Cys Arg Met Leu Gly Tyr  
455 460 465

Ser Lys Gly Arg Ala Leu Tyr Lys Val Gly Ala Gly Thr Gly Gln  
470 475 480

Ile Trp Leu Asp Asn Val Gln Cys Arg Gly Thr Glu Ser Thr Leu  
485 490 495

Trp Ser Cys Thr Lys Asn Ser Trp Gly His His Asp Cys Ser His  
500 505 510

Glu Glu Asp Ala Gly Val Glu Cys Ser Val  
515 520

<210> 614  
<211> 647  
<212> DNA  
<213> Homo Sapien

<400> 614  
cccacgcgtc cgaaggcaga caaaggttca ttgtaaaga agtccttcc 50  
agcacctcct ctcttctcct ttgcccaaa ctcaccagt gagtgtgagc 100  
atthaagaag catcctctgc caagaccaa aggaaagaag aaaaagggcc 150  
aaaagccaaa atgaaactga tggctactgt ttcaccatt gggctaactt 200  
tgctgctagg agtcaagcc atgcctgcaa atgcctctc ttgctacaga 250  
aagatactaa aagatcaca ctgtcacaac ctccggaag gagtagctga 300  
cctgacacag attgatgca atgtccagga tcatttctgg gatgggaagg 350  
gatgtgagat gatctgttac tgcaactca gcaattgct ctgctccca 400  
aaagacgttt tctttggacc aaagatctct ttcgtgattc cttgcaaca 450



tcaatgagaa tcttcatgta ttctggagaa caccattcct gatttcccac 500

aaactgcact acatcagtat aactgcattt ctagtttcta tatagtgcaa 550

tagagcatag attctataaa ttcttacttg tctaagacaa gtaaactgt 600

gttaaacaag tagtaataaa agttaattca atctaaaaaa aaaaaaa 647

<210> 615

<211> 98

<212> PRT

<213> Homo Sapien

<400> 615

Met Lys Leu Met Val Leu Val Phe Thr Ile Gly Leu Thr Leu Leu

1 5 10 15

Leu Gly Val Gln Ala Met Pro Ala Asn Arg Leu Ser Cys Tyr Arg

20 25 30

Lys Ile Leu Lys Asp His Asn Cys His Asn Leu Pro Glu Gly Val

35 40 45

Ala Asp Leu Thr Gln Ile Asp Val Asn Val Gln Asp His Phe Trp

50 55 60

Asp Gly Lys Gly Cys Glu Met Ile Cys Tyr Cys Asn Phe Ser Glu

65 70 75

Leu Leu Cys Cys Pro Lys Asp Val Phe Phe Gly Pro Lys Ile Ser

80 85 90

Phe Val Ile Pro Cys Asn Asn Gln

95

<210> 616

<211> 2558

<212> DNA

<213> Homo Sapien

<400> 616

cccacgcgctc cgcgacgcgc tgggctggac cccaggtctg gagcgaattc 50

cagcctgcag ggctgataag cgaggcatta gtgagattga gagagacttt 100

acccccccgt ggtggttga gggcgcgag tagagcagca gcacaggcgc 150  
gggtcccggg aggccggctc tgctcgcgcc gagatgtga atctcctca 200  
cgaaaccgac tcggctgtgg ccaccgcgcg ccgcccgcgc tggctgtgcg 250  
ctggggcgct ggtgctggcg ggtggcttct ttctcctcg cttcctcttc 300  
gggtggttta taaatcctc caatgaagct actaacatta ctcaaagca 350  
taatatgaaa gcatttttg atgaattgaa agctigagaac atcaagaagt 400  
tctfacataa ttttacacag ataccacatt tagcaggaac agaacaaaac 450  
ttcagcttg caaagcaaat tcaatcccag tggaaagaat ttggcctgga 500  
ttctgttgag ctagctcatt atgatgtcct gttgtcctac ccaaataaga 550  
ctcatcccaa ctacatctca ataattaatg aagatggaaa tgagatttc 600  
aacacatcat tattgaacc acctcctcca ggatagaaa atgttcgga 650  
tattgtacca ctttcagtg ctttctctcc tcaaggaatg ccagagggcg 700  
atctagtgtg tgtaactat gcacgaactg aagacttctt taaattgaa 750  
cgggacatga aaatcaattg ctctgggaaa attgtaattg ccagatatgg 800  
gaaagtttc agaggaaata aggttaaaaa tgcccagctg gcaggggcca 850  
aaggagtcat tctctactcc gacctgctg actactttgc tctgggggtg 900  
aagtcctatc cagacggtg gaatcttct ggaggtggtg tccagcgtgg 950  
aaatccta aatctgaatg gtcaggaga ccctctaca ccaggttacc 1000  
cagcaaatga atatgcttat aggcgtggaa tgcagaggc tgttggtctt 1050  
ccaagtattc ctgtcatcc aattggatac tatgatgcac agaagctcct 1100  
agaaaaaatg ggtggctcag caccaccaga tagcagctgg agaggaagtc 1150  
tcaaagtgcc ctacaatgtt ggacctggct ttactggaaa ctttctaca 1200  
caaaaagtca agatgcacat ccactctacc aatgaagtga cgagaattta 1250

caatgtgata ggtactctca gaggagcagt ggaaccagac agatatgtca 1300  
ttctgggagg tcaccgggac tcatgggtgt ttggtggtat tgaccctcag 1350  
agtggagcag ctgttgtca tgaattgtg aggagctttg gaacactgaa 1400  
aaaggaaggg tggagaccta gaagaacaat tttgtttgca agctgggatg 1450  
cagaagaatt tggcttctt ggttctactg agtgggcaga ggagaattca 1500  
agactccttc aagagcgtgg cgtggcttat attaatgctg actcatctat 1550  
agaaggaaac tacactctga gagttgattg tacaccgctg atgtacagct 1600  
tggtacacaa cctaacaaaa gagctgaaaa gccctgatga aggctttgaa 1650  
ggcaaatctc tttatgaaag ttgactaaa aaaagtctt cccagagtt 1700  
cagtggcatg cccaggataa gcaaattggg atctggaaat gattttgagg 1750  
tgttctcca acgacttga attgctcag gcagagcacg gtatactaaa 1800  
aattgggaaa caacaaatt cagcggctat ccaactgtac acagtgtcta 1850  
tgaacatat gagttggtgg aaaagttta tgatccaatg ttaaatac 1900  
acctactgt ggcccaggtt cgaggagga ttgtgttga gctagccaat 1950  
tccatagtgc tccttttga ttgtcgagat tatgctgtag ttttaagaaa 2000  
gtatgctgac aaaatctaca gtatttctat gaaacatcca caggaaatga 2050  
agacatacag tgatcattt gattcactt tttctgcagt aaagaattt 2100  
acagaaattg cttccaagtt cagtgagaga ctccaggact ttgacaaaag 2150  
caaccaata gtattaagaa tgatgaatga tcaactcatg tttctggaaa 2200  
gagcattat tgatcatta gggttaccag acaggcctt ttaggcacat 2250  
gtcatctatg ctccaagcag ccacaacaag tatgcagggg agtcattccc 2300  
aggaattat gatgctctgt ttgatattga aagcaaagtg gaccctcca 2350  
aggcctgggg agaagtgaag agacagattt atgttcagc cttcacagtg 2400

caggcagctg cagagacttt gagtgaagta gcctaagagg attttttaga 2450

gaatccgtat tgaatttggg tggatgtca ctcaaaaaga atcgtaatgg 2500

gtatattgat aaattttaa attggtatat ttgaaataaa gttgaatatt 2550

atatataa 2558

<210> 617

<211> 750

<212> PRT

<213> Homo Sapien

<400> 617

Met Trp Asn Leu Leu His Glu Thr Asp Ser Ala Val Ala Thr Ala

1 5 10 15

Arg Arg Pro Arg Trp Leu Cys Ala Gly Ala Leu Val Leu Ala Gly

20 25 30

Gly Phe Phe Leu Leu Gly Phe Leu Phe Gly Trp Phe Ile Lys Ser

35 40 45

Ser Asn Glu Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala

50 55 60

Phe Leu Asp Glu Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu His

65 70 75

Asn Phe Thr Gln Ile Pro His Leu Ala Gly Thr Glu Gln Asn Phe

80 85 90

Gln Leu Ala Lys Gln Ile Gln Ser Gln Trp Lys Glu Phe Gly Leu

95 100 105

Asp Ser Val Glu Leu Ala His Tyr Asp Val Leu Leu Ser Tyr Pro

110 115 120

Asn Lys Thr His Pro Asn Tyr Ile Ser Ile Ile Asn Glu Asp Gly

125 130 135

Asn Glu Ile Phe Asn Thr Ser Leu Phe Glu Pro Pro Pro Gly

140 145 150

Tyr Glu Asn Val Ser Asp Ile Val Pro Pro Phe Ser Ala Phe Ser

155            160            165

Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr Val Asn Tyr Ala  
170            175            180

Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met Lys Ile Asn  
185            190            195

Cys Ser Gly Lys Ile Val Ile Ala Arg Tyr Gly Lys Val Phe Arg  
200            205            210

Gly Asn Lys Val Lys Asn Ala Gln Leu Ala Gly Ala Lys Gly Val  
215            220            225

Ile Leu Tyr Ser Asp Pro Ala Asp Tyr Phe Ala Pro Gly Val Lys  
230            235            240

Ser Tyr Pro Asp Gly Trp Asn Leu Pro Gly Gly Gly Val Gln Arg  
245            250            255

Gly Asn Ile Leu Asn Leu Asn Gly Ala Gly Asp Pro Leu Thr Pro  
260            265            270

Gly Tyr Pro Ala Asn Glu Tyr Ala Tyr Arg Arg Gly Ile Ala Glu  
275            280            285

Ala Val Gly Leu Pro Ser Ile Pro Val His Pro Ile Gly Tyr Tyr  
290            295            300

Asp Ala Gln Lys Leu Leu Glu Lys Met Gly Gly Ser Ala Pro Pro  
305            310            315

Asp Ser Ser Trp Arg Gly Ser Leu Lys Val Pro Tyr Asn Val Gly  
320            325            330

Pro Gly Phe Thr Gly Asn Phe Ser Thr Gln Lys Val Lys Met His  
335            340            345

Ile His Ser Thr Asn Glu Val Thr Arg Ile Tyr Asn Val Ile Gly  
350            355            360

Thr Leu Arg Gly Ala Val Glu Pro Asp Arg Tyr Val Ile Leu Gly  
365            370            375

Gly His Arg Asp Ser Trp Val Phe Gly Gly Ile Asp Pro Gln Ser

380

385

390

Gly Ala Ala Val Val His Glu Ile Val Arg Ser Phe Gly Thr Leu

395

400

405

Lys Lys Glu Gly Trp Arg Pro Arg Arg Thr Ile Leu Phe Ala Ser

410

415

420

Trp Asp Ala Glu Glu Phe Gly Leu Leu Gly Ser Thr Glu Trp Ala

425

430

435

Glu Glu Asn Ser Arg Leu Leu Gln Glu Arg Gly Val Ala Tyr Ile

440

445

450

Asn Ala Asp Ser Ser Ile Glu Gly Asn Tyr Thr Leu Arg Val Asp

455

460

465

Cys Thr Pro Leu Met Tyr Ser Leu Val His Asn Leu Thr Lys Glu

470

475

480

Leu Lys Ser Pro Asp Glu Gly Phe Glu Gly Lys Ser Leu Tyr Glu

485

490

495

Ser Trp Thr Lys Lys Ser Pro Ser Pro Glu Phe Ser Gly Met Pro

500

505

510

Arg Ile Ser Lys Leu Gly Ser Gly Asn Asp Phe Glu Val Phe Phe

515

520

525

Gln Arg Leu Gly Ile Ala Ser Gly Arg Ala Arg Tyr Thr Lys Asn

530

535

540

Trp Glu Thr Asn Lys Phe Ser Gly Tyr Pro Leu Tyr His Ser Val

545

550

555

Tyr Glu Thr Tyr Glu Leu Val Glu Lys Phe Tyr Asp Pro Met Phe

560

565

570

Lys Tyr His Leu Thr Val Ala Gln Val Arg Gly Gly Met Val Phe

575

580

585

Glu Leu Ala Asn Ser Ile Val Leu Pro Phe Asp Cys Arg Asp Tyr

590

595

600

Ala Val Val Leu Arg Lys Tyr Ala Asp Lys Ile Tyr Ser Ile Ser

605                    610                    615

Met Lys His Pro Gln Glu Met Lys Thr Tyr Ser Val Ser Phe Asp

620                    625                    630

Ser Leu Phe Ser Ala Val Lys Asn Phe Thr Glu Ile Ala Ser Lys

635                    640                    645

Phe Ser Glu Arg Leu Gln Asp Phe Asp Lys Ser Asn Pro Ile Val

650                    655                    660

Leu Arg Met Met Asn Asp Gln Leu Met Phe Leu Glu Arg Ala Phe

665                    670                    675

Ile Asp Pro Leu Gly Leu Pro Asp Arg Pro Phe Tyr Arg His Val

680                    685                    690

Ile Tyr Ala Pro Ser Ser His Asn Lys Tyr Ala Gly Glu Ser Phe

695                    700                    705

Pro Gly Ile Tyr Asp Ala Leu Phe Asp Ile Glu Ser Lys Val Asp

710                    715                    720

Pro Ser Lys Ala Trp Gly Glu Val Lys Arg Gln Ile Tyr Val Ala

725                    730                    735

Ala Phe Thr Val Gln Ala Ala Ala Glu Thr Leu Ser Glu Val Ala

740                    745                    750

<210> 618

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 618

agatgtgaag gtcaggtgt gccg 24

<210> 619

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 619

gaacatcagc gctcccggta attcc 25

<210> 620

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 620

ccagcctttg aatggtacaa aggagagaag aagctcttca atggcc 46

<210> 621

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 621

ccaaactcac ccagtgagtg tgagc 25

<210> 622

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 622

tgggaaatca ggaatggtgt tctcc 25

<210> 623

<211> 50

<212> DNA

<213> Artificial Sequence

<220>



<223> Synthetic Oligonucleotide probe

<400> 623

ctgttttca ccattgggct aactttgctg ctaggagttc aagccatgcc 50